Greater Farallones National Marine Sanctuary Advisory Council

Report on NOAA Regulated Overflight Zones

July 6, 2017

On February 1, 2017 the following motion was passed by the Advisory Council:

Having reviewed the working group and associated public comments, the Sanctuary Advisory Council endorses this report and forwards it and all the recommendations to GFNMS while noting vote tallies and public comments received, orally and written, specifically the comments from the pilots, consistent with any enhancements our SAC may define as we go forward.

The Sanctuary Advisory Council hereby completes its motion by submitting this final report to the Greater Farallones National Marine Sanctuary.

This report contains the recommendations of the Overflight Working Group followed by relevant Sanctuary Advisory Council recommendations and suggestions from February 1st , Staff clarifications made at the May 24th Advisory Council meeting and public comments received.

PART I

RECOMMENDATIONS OF THE WORKING GROUP ON NOAA REGULATED LOW-OVERFLIGHT ZONES

George Clyde, Chair
Greater Farallones National Marine Sanctuary Advisory Council
Working Group on NOAA Regulated Overflight Zones

January 19, 2017

To the Members of the Sanctuary Advisory Council
Attn: John L. Largier, Chair

Dear Members of the Sanctuary Advisory Council,

With this letter I am pleased to transmit to you the Recommendations of the Working Group on NOAA regulated low-overflight zones.

As a body, the Working Group was not able to reach the sort of agreement that is typical of a working group, where there is a broad consensus for the recommendations. The group included three pilots, four marine scientists, a representative of the Monterey Bay SAC, and myself. While the group unanimously believes that the birds and marine mammals along our coast and in estuaries are subject to potential disturbance from low-flying aircraft (including drones) and came to agreement on a number of recommendations, in the end, the pilots and the other members remained divided in some important ways regarding how the wildlife can and should be protected.

From the very start of the discussions in late 2015, the pilots advocated for pilot education and outreach instead of the regulatory approach used by the four west coast sanctuaries – establishing NOAA regulated overflight zones (NROZs) where pilots flying below 1,000 feet are subject to citation. The pilots' position is that NOAA should not be attempting to regulate airspace, as that is under the exclusive jurisdiction of the FAA. They also believe that the NROZs can pose serious safety issues for pilots in the area. They believe that pilot education and outreach, coupled with existing FAA regulations regarding minimum flying elevations, is the preferred approach.

The other members of the WG agree on the importance of pilot education and outreach. However, they also believe in NOAA's right to establish and enforce its NROZ regulations, accepting the FAA's stated position that it does not view NOAA's low-overflight rules as an airspace regulation nor as an infringement on the FAA's stated authority.[1] Following the precautionary principle, they believe that the NROZs are an important tool – both in protecting the wildlife through regulatory enforcement and as an effective way to motivate and educate pilots about the locations of vulnerable wildlife and the minimum elevations necessary to protect them from potential disturbance. It is the non-pilot view that outreach and education alone is not as effective as a combination of outreach, education and enforceable regulated low-over-flight zones within the Sanctuary.

[1] 77 Fed. Reg.at p. 3921, fn 1 (January 26, 2012)

In spite of over 60 hours of meetings and teleconferences, the engagement of a professional facilitator and circulation of ten drafts for comment, this fundamental division continued though the final teleconference this week. As a result, the WG members were individually polled for their views on the various proposals that the WG developed, and the results of that polling are included in the Recommendations. The pilots also intend to provide a written statement with their views, which will be distributed to the SAC when published and will be posted at http://farallones.noaa.gov/manage/sac_meetings.html.

Nevertheless, the WG members worked very well together in developing mutual understandings as to the relevant issues, and they achieved significant agreements on some matters. The pilot input helped forge a non-regulatory approach to protecting Devil's Slide Rock and to determine the dimensions and locations of the proposed new and extended NROZs. Their input also resulted in the recommendation that the horizontal dimensions of the existing and future NROZ should be reduced substantially for reasons of compliance and pilot safety.

The attached Recommendations reflect positive and constructive input from the marine biologists and pilots, in spite of the pilots' overall objections to the NROZs. The Recommendations are well considered. Most are supported by virtually all the marine scientists and SAC representatives on the WG and, in some cases, by some or all of the pilots. They will be valuable not only to our Sanctuary, but also to other Sanctuaries and managers of other protected areas with low-overflight issues.

On that basis, the attached Recommendations are ripe for consideration by the SAC at its February 1 meeting. My personal view, as a member of the WG (and not as its Chair), is that the SAC should consider and approve all of the Recommendations, and that they should be forwarded to the Sanctuary Superintendent for action.

Lastly, thank you for appointing me as Chair of the Working Group. It has been a challenging but satisfying assignment during which we all have learned a great deal and hopefully have aided the Sanctuary in its mission of protecting habitat and wildlife in our local waters.

Sincerely,

CC: Chair, Monterey Bay National Marine Sanctuary Advisory Council

Greater Farallones National Marine Sanctuary Advisory Council

Working Group on NOAA Regulated Overflight Zones

Recommendations to Sanctuary Advisory Council

January 19, 2017

Greater Farallones National Marine Sanctuary Advisory Council Overflight Working Group

Working Group Members[2]

George Clyde, Chair	Sanctuary Advisory Council Member, GFNMS
Gerry McChesney	Marine Scientist, U.S. Fish and Wildlife Service
Jaime Jahncke, Ph.D.	Marine Scientist, Point Blue Conservation Science
Sarah Allen, Ph.D.	Marine Scientist, National Park Service
Tenaya Norris	Marine Scientist, The Marine Mammal Center
Brian Branscomb	Private and Commercial Pilot
John duGan	Commercial Helicopter Pilot, Bay Aerial Helicopter Tours
Andy Wilson	Pilot and Representative of California Pilots Association
Barton Selby	Monterey Bay National Marine Sanctuary Advisory Council Liaison

Working Group Staff Providing Technical, Logistical and Facilitator Support

Marina Piscolish	Senior Mediator/Facilitator, Center for Collaborative Policy
Sage Tezak	NOAA
Karen Reyna	NOAA
Matt Pickett	NOAA

Thanks to Scott Kathey for his contributions, and to Kate Bimrose and Jenn Gamurot for their administrative assistance.

Credits for photographs on cover page:

Low-flying aircraft, Courtesy of San Francisco Seaplane Tours
Common Murre with fish, Photo by Derek Lee, Point Blue Conservation Science
Harbor seals, Photo by Jason Thompson
Common Murre on the water, Photo by Sophie Webb

[2] Further information regarding the Working Group members is included in the Sanctuary Overflight Working Group Reference Materials. An electronic copy of these Recommendations will be linked with the February 1, 2017, Sanctuary Advisory Council meeting materials at http://farallones.noaa.gov/manage/sac_meetings.html.

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ACRONYMS

AGL	Above Ground Level
AIM	Aeronautical Information Manual
AOPA	Aircraft Owners and Pilots Association
CFR	Code of Federal Regulations
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
GFNMS	Greater Farallones National Marine Sanctuary
GGNRA	Golden Gate National Recreation Area
GPS	Global Positioning Systems
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NROZ	NOAA Regulated Overflight Zones
PRNS	Point Reyes National Seashore
SAC	Sanctuary Advisory Council
UAV	Unmanned Aerial Vehicles
VFR	Visual Flight Rules

Introduction

The Greater Farallones National Marine Sanctuary Advisory Council (the SAC) formed the Overflight Working Group to consider and to make recommendations regarding the locations and dimensions of areas where the elevation of motorized aircraft should be regulated to minimize potential disturbance to birds and marine mammals. The areas to be considered were within Greater Farallones National Marine Sanctuary (Greater Farallones Sanctuary or the Sanctuary) and in the Devil's Slide area of Monterey Bay National Marine Sanctuary (Monterey Bay Sanctuary), which is managed by Greater Farallones Sanctuary.

The motivation for this inquiry came from the Farallones Sanctuary staff to follow up on numerous comments received during regulatory proceedings over several years, most recently in connection with the revisions to the low-overflight regulations of West Coast sanctuaries in 2012 and the Greater Farallones Sanctuary expansion in 2015. In the course of those proceedings and earlier, both Greater Farallones and Monterey Bay Sanctuaries have already established some NOAA Regulated Overflight Zones (NROZs) where flights of motorized aircraft below 1,000 feet that disturb birds or marine mammals violate sanctuary regulations. The existing Greater Farallones Sanctuary NROZs are shown in purple in Figure 1.

One recommendation of the Working Group was substantial reductions in the horizontal dimensions of the NROZs to the minimum dimensions needed to adequately protect birds and marine mammals breeding and resting along the coastline. By reducing the horizontal dimensions of the NROZs, pilots may be more likely to comply with the regulation, and, more importantly, improve pilot and passenger safety. Presently many NROZs in the Sanctuary extend approximately one-and-one-half miles offshore of sensitive coastal wildlife areas. The working group concluded that approximately 1,000 feet would be sufficient in most cases, and that a uniform horizontal dimension for all NROZs that adjoin the coast based on that premise would be more effective than the current horizontal dimensions, which substantially exceed that.

Based on input from the pilots and other sources, the Working Group made a number of recommendations on how to improve the depiction of NROZs and other sensitive areas in the Sanctuary on the Federal Aviation Administration (FAA) aeronautical charts and other materials. The Working Group's Recommendations also include:

- Acknowledgement of the pilot's ultimate authority for the safety of the aircraft under FAA regulations;
- A limited exception to the low-overflight regulations to take into consideration unanticipated weather;
- The long-term permitting of qualified commercial operators to conduct low overflights under specified conditions to ensure that wildlife would not be disturbed (similar to the Farallones Sanctuary permits for shark tour companies), and to improve expedited permitting in some cases where urgency is required;
- Recommendations as to improving protection of wildlife along the coast of the Pt. Reyes National Seashore (PRNS), where the Sanctuary's boundaries do not include the one-quarter mile from the coastline, and therefore the NROZs do not adequately protect wildlife from low overflights on the coastline or outlying rocks. In addition, coordinate with the air tour management plans of the National Park Service (NPS) for PRNS;
- Specific recommendations regarding improved pilot education and outreach, including recommending staff for this responsibility; and

- While the Working Group was not asked to make specific recommendations regarding drones, it did recommend that the Sanctuary and the regional and national offices of the National Marine Sanctuaries program give immediate attention to the growing use of unmanned aerial vehicles (UAVs or drones) and the consequent potential threats to wildlife in the Sanctuaries.

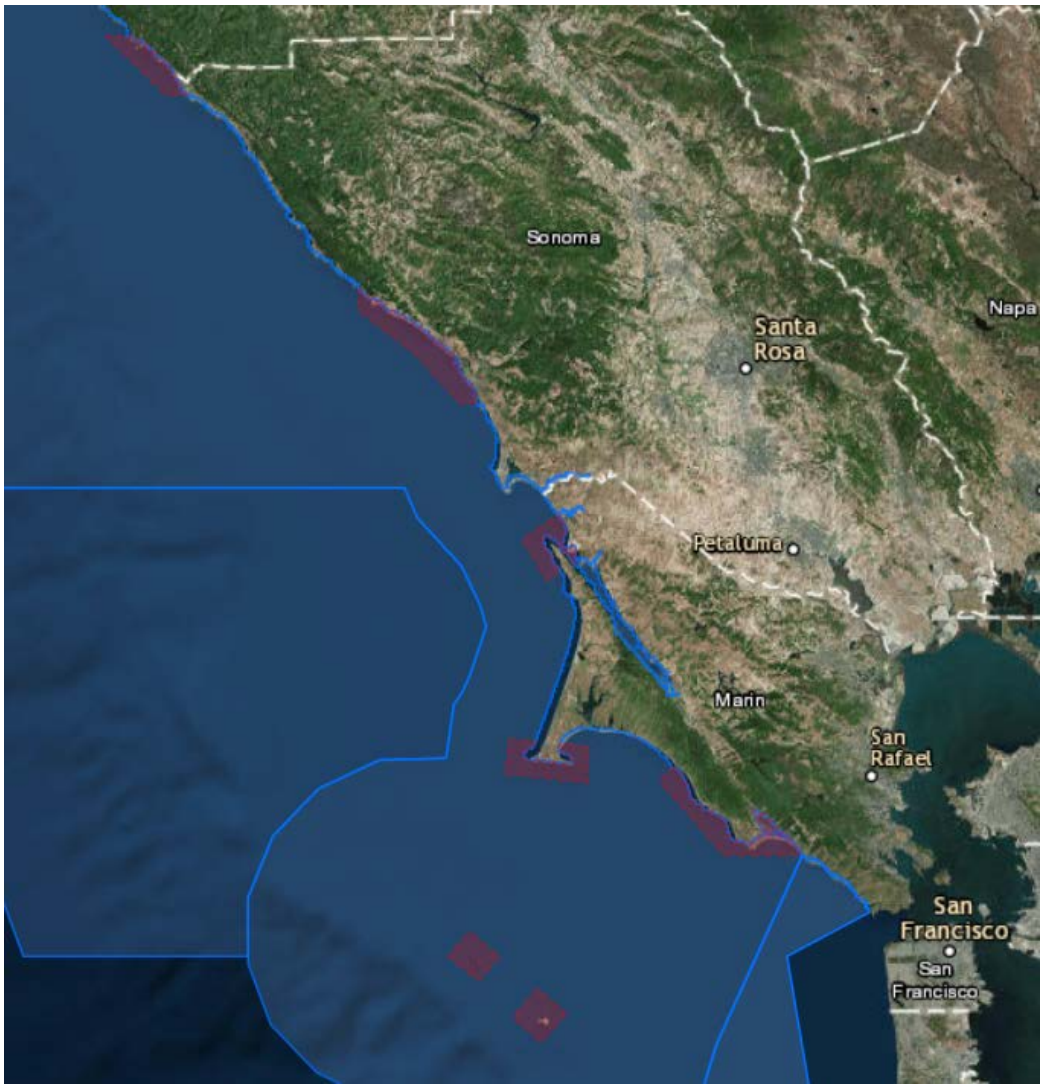


Figure 1 Existing NOAA Regulated Overflight Zones in the Greater Farallones National Marine Sanctuary, shown in purple.

We feel our process could be a model other Sanctuaries follow for establishing or reviewing NROZs. This process included local pilots and biologist in the discussions to determine the minimum zone dimensions needed to protect resources and pilot safety.

Lastly, from the pilot perspective, consistency in zone dimensions across Sanctuaries would be ideal if possible. It would be desirable to provide uniformity for the depiction of the

Sanctuary NROZs on the FAA charts and other FAA documents for the entire West Coast. It is acknowledged that different conditions at other sanctuaries might justify a different approach.

For the specific sites that were considered, except for Devil's Slide Rock, the recommendations are to add new or extended NROZs where flights under 1,000 feet would be subject to the Sanctuary regulations:

- Sonoma Coast between the two existing NROZs, which includes the coast of The Sea Ranch, Stewarts Point and Salt Point,
- Bodega Head and Bodega Rock,
- Along the Marin Coast from the existing NROZ at Tomales Point southward to and including McClures Beach and Elephant Rock,
- Along the Marin Coast and from the existing NROZ at Pt. Reyes along the Drakes Bay coast to the existing NROZ that covers Double Point and the Bolinas coast, and
- The remainder of Tomales Bay, south of the existing NROZ that extends from the mouth to Tom's Point.

Regarding the Devil's Slide area, the Working Group recommended that the Sanctuary ask the FAA to add a special notice on its aeronautical charts requesting pilots fly at least 1,000 feet over this sensitive area, and that the effectiveness of this notice along with other pilot outreach and education, be monitored.

Background

In response to comments received on various Greater Farallones Sanctuary planning documents over the years, the Greater Farallones Sanctuary Advisory Committee (SAC) commissioned the formation of a volunteer working group to examine potential additions and other changes to the Sanctuary's NOAA Overflight Regulation Zones (NROZs). A member of the SAC was appointed as Chair, who worked with Sanctuary staff to form the Working Group.

In forming the Working Group, the Chair sought a small group who could commit to meeting attendance and substantial work between meetings. The ten-member group consisted of four marine scientists familiar with the areas and disturbance of birds and marine mammals, four local pilots (including a commercial helicopter pilot and a representative from the leading advocacy organization for the aviation community in California, the California Pilots Association), a representative from the Monterey Bay Sanctuary Advisory Council, and the Chair. One pilot dropped out mid-way through the process, but the remainder of the Working Group members undertook their responsibilities diligently over a period of 13 months, resulting in these recommendations.

This was the first time in the history of the Office of National Marine Sanctuaries that pilots and members of the aviation community have been actively engaged in crafting low-overflight regulations. Previously, pilot participation was primarily accomplished by providing comments in scoping sessions and during the environmental and regulatory process.

Local pilots were interviewed and invited for positions on the Working Group. The pilots selected to participate have various FAA pilot certificates and ratings, including private, commercial, rotor wing, Air Transport Pilot and flight instructor. All are local and extremely familiar with the Northern California coastline, FAA Airspace, the FAA's Federal Aviation

Regulations (FARs) and local airports, including Half Moon Bay Airport. The pilots and other members of the Working Group made site visits to areas under consideration, and many complex issues were discussed in depth. This well-informed Working Group participated in many give-and-take discussions, informed each other, and produced creative and constructive results, many of which were beyond what was contemplated at the start.

The process was further informed by written comments from stakeholders selected by the Working Group as being knowledgeable with wildlife and aviation considerations at the various sites and in the region, and a facilitator was engaged to advance the process.

The Working Group considered options for protecting important seabird and marine mammal breeding and resting areas along the coast and important waterbird and marine mammal foraging areas in coastal estuaries (not off-shore foraging areas away from the coast). While the Working Group has made a number of very specific recommendations, the group conveyed an underlying theme. The key to protecting wildlife from potential disturbance by low-flying aircraft is ultimately pilot outreach and education, which can include education through providing textual and graphical information on the FAA sectional aeronautical charts.

After numerous meetings, conference calls and site visits, the pilots believe that outreach and education is the most effective way to protect marine mammals and birds. There are several recommendations for pilot education and outreach that were formulated through a pilot education and outreach subcommittee (see Recommendation GR-10). Indeed, some pilots believe that low-overflight regulations are not necessary and could even be counterproductive, as they may be viewed by pilots as an inappropriate effort by the National Oceanic and Atmospheric Administration (NOAA) to regulate airspace that should be under the exclusive jurisdiction of the FAA. Additionally, having the threat of a violation, citation or penalties where aviation safety is concerned may also be inappropriate. (Separately, the pilots' are providing a statement to the SAC expressing their views and concerns, which will be posted here when delivered: http://farallones.noaa.gov/manage/sac_meetings.html.)

However, subject to those qualifications for some members, it was also the consensus of the Working Group that a clear and accurate notation of the NROZs and the NOAA regulations on the FAA aeronautical charts was itself an extremely effective educational tool, particularly when combined with a thorough pilot outreach program. Showing the NROZs as marked zones on the FAA charts with an explanatory text box is probably the best way of reaching, informing and reminding both local and visiting pilots of the need to protect wildlife from potential disturbance by low overflights. Consequently, a key component of the Working Group's recommendations is in Recommendation GR-10, which focuses on pilot outreach and education throughout the region, and in the recommendations for pilot outreach and education for the specific sites.

While the Working Group agreed that low-flying aircraft can disturb wildlife, the members noted that there are other human disturbances of wildlife, often more significant than low-flying aircraft. Nevertheless, it was agreed that reducing potential disturbance of wildlife by low-flying aircraft is beneficial, and that education, outreach and well-considered regulations noted prominently on the FAA aeronautical charts are appropriate.

Many of the materials and presentations considered by the Working Group are at this link: Sanctuary Overflight Working Group Reference Materials.

Recommendations

The Working Group has made a suite of recommendations that fall into two categories: general and site specific. All general recommendations are prefaced with "GR" followed by a number. Some general recommendations have multiple sub-recommendations.

Section 1: General Recommendations

The following recommendations are listed by topic. In every case there was a vote, the results are shown by member with a "0" to "6" ranking, with "6" being the most favorable and "0" being the most unfavorable. Sarah Allen was unable to attend the final teleconference and gave Tenaya Norris her proxy, who voted on her behalf.

GR-1: Single Purpose for NOAA Regulated Overflight Zones

The Sanctuary's regulations establish "Special Wildlife Protection Zones." These serve several purposes, with provisions that apply to transiting cargo vessels and approaching white sharks, in addition to disturbance of wildlife by low-flying aircraft.

The Working Group has focused solely on low overflights that might disturb birds and marine mammals and has made recommendations regarding the locations and dimensions of the NROZs to protect these resources. The Working Group did not consider other roles that the Special Wildlife Protection Zones may play, or disturbance of wildlife from sources other than motorized aircraft within the Sanctuary.

Because of possible confusion arising out of the existence of various protected areas for various purposes, the Working Group recommends that the Sanctuary revise its regulations to designate NROZs with the single purpose of preventing disturbance from low overflights, and not for the purpose of regulating other activities within the same zones as is done now in the "Special Wildlife Protection Zones."

GR-2: Minimum Altitude

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**6**	3	**3**	**4**	**4**	**1**	**1**	**1**

The minimum altitude of 1,000 feet in the existing and proposed NROZs was discussed at length, with pilots advocating 500 feet above ground level (AGL) for consistency with the FARs, which require that pilots remain 500 feet above open water or uncongested areas and 1,000 feet above congested areas (14 CFR §91.119). The areas where low overflight zones are being proposed are uncongested. For consistency with FARs, the pilots advocated using the same altitudes that pilots are already familiar with and trained to fly over open water or uncongested areas – 500 feet AGL. Also, based reports regarding restoration and monitoring of common murre colonies, the pilots believe flushing events from aircraft at 500 feet AGL or more are very rare. The marine scientists on the Working Group disagree with the pilots' view that

flushing events from aircraft at 500 feet AGL or more are very rare. Studies regarding disturbances are included in the Sanctuary Overflight Working Group Reference Materials. With this research and the FARs in mind, the pilots advocated for this distance.

Advisory Council Directions and Recommendations:

- *Richard Charter asked about the CA Coastal Rocks National Monument, which has a 2000' foot recommended altitude under an agreement between BLM, NPS, USFWS and the FAA, and noted that a 2,000 ft. zone exists in Olympic Coast Sanctuary. Noting that the pilots suggested 500 ft. vertical and working group 1,000 ft., he can live with 1,000 ft. He noted that the interagency agreement between FAA, USFWS, expired in 1999. This was the last agreement. This is why it is "requested" to be above 2000 ft in those areas.*
- *John Berge asked what the definition of congested versus non-congested is. In the public comments, there is a comment from an FAA safety officer saying that a bunch of birds could create a congested area. The terms congested and uncongested are undefined on the charts.*
- *Francesca Koe asked why the Olympic Region chose 2,000 ft. recommended and asked if there is data that compares the disturbances or lack of disturbance between 2,000 ft. and 1,000 ft. The precautionary principle and best available science were considered and the 2,000 ft. recommendation comes from Point Blue Conservation Science.*
- *Gerry McChesney added there is a long standing MOU between FAA and other federal agencies to have 2,000 ft. recommended over all national parks, national wildlife refuges, wilderness, BLM land, etc. Where the 2,000 ft. recommendation came from is not clear, but it is a long-standing number. The data in our area related to the Common Murre project has a detection zone – any aircraft that is 1000 ft. or less over our nesting colony is recorded to determine whether there is a disturbance or not. Most of the disturbance happens in the 0-1,000 ft. range.*
- *Jaime Jahncke noted that just because there is no flushing event, does not necessarily mean there was not a disturbance; it could be a release of stress hormones or things that are less evident.*
- *Elizabeth Babcock asked how many overflight violations per year were identified and what, if any, tickets were issued or enforcement actions have been taken? Joshua Russo asked if there is a concern that reports are fraudulent or exaggerated.*
- *Sarah Allen wanted to ensure that our notes capture that the 2,000 ft. recommendation captures other values such as wilderness values and includes multiple issues aside from wildlife disturbance.*
- *Richard Charter noted that it is important to consider this issue in case we wind up with an air tour industry here. Sarah Allen addressed this and said National Parks Service (Golden Gate National Recreation Area) have air tour management plans with the FAA.*
    - *On 5/24/17 the Advisory Council requested that the following FAA comments on congested areas be included in the Final Report:*
        - *Steve Kroening, Aviation Safety Analyst, FAA, General Aviation and Commercial Operations, Office of Aviation Safety-Flight Standards(AFS-820)(remote sited in Kansas City, MO) June 27, 2016*

As a former NOAA pilot conducting mammal surveys in Alaska, we would routinely fly grid patterns for survey of the coastal areas at 1000 feet and have noted the comfort level of the scientists collecting the mammal observations and data flying at this altitude. I had heard from them personally that this was a "good" altitude that did not seem to disturb or scare the wildlife. I would be very reluctant to increase this altitude to 2000 feet in the absence of any hard data that would suggest otherwise and from my own observations. Furthermore, the GA community is already bound by certain distance requirements, that being 14 CFR Part §91.119 which states that though open water and non-congested areas utilize a 500 feet altitude nearest to obstacles or surface, a congested area observes a 1000ft altitude with 2000ft horizontal separation. I believe it could be argued, much like the existing areas, that the flight zones noted on the aeronautical chart are wildlife congested, thus, following the 1000ft altitude restriction unless in an emergency would be consistent with the boundaries and provisions already established. I believe a 1000 foot altitude serves the intent of the flight zone (noise abatement) given the reasons provided by NOAA for wildlife disturbance concerns and the noise generated by an aircraft transiting above these areas. I would have no issues expanding the 1000 foot zones as needed to enhance wildlife "quiet" zones.

<u>Staff Clarifications/Answers to Questions:</u>

- *The history is since the Olympic Coast Marine Sanctuary is next to Olympic National Park they chose to match up the national's parks request of 2,000 ft. This is for visitor experience reasons as well as wildlife disturbance.*
- *There is a paper available on GFNMS resource protection website and also available on the Seabird Protection Network website about distances of overflight – a lot of it is driven by species and locations. In certain areas, disturbance can happen at 4,000 ft. and others at 300 ft. We have to rely on what information we have locally – we are a different place than Olympic Coast.*
- *Monitoring is seasonal and sporadic and is done by US Fish & Wildlife Service. We do not know the exact number of violations; however, NOAA enforcement has followed up when we do report violations. Generally, there is a penalty schedule – ranging from verbal warning to fine. Elizabeth asked what the scale of violations is. The reported number for the sanctuary are in double digits.*
- *In response to a question about fraudulent reporting or exaggerated claims, staff explained that the reports are from people trained to identify incidents and you have to get the plane "N" number. The majority of incidents that go to the Sanctuary comes from the USFWS Common Murre Restoration Program. If they forward anything to the Sanctuary – for example, at Devil's Slide – it will not be forwarded to them unless they get a plane's tail number; this is probably 12-15 of those a year and then maybe a couple dozen more that they see every year that they can't identify. Most disturbances are at Devils Slide where there is not an overflight regulation area.*

Advisory Council Directions and Recommendations on Area-specific Zones:

- *Devil's Slide Rock*

Gerry McChesney added we could use the bird symbol instead of the big magenta dot for Devil's Slide Rock. It is incorporated in our recommendations, but when it comes to symbols like that, we are asking FAA to change the whole graphics of the maps. Does resonate as a good symbol. Francesca thinks the bird symbol would re-inforce the "stay away" message for pilots (not getting birds in their engine).

- *Sea Ranch and Jenner*

Joshua Russo asked about the area between Sea Ranch and Jenner – were there nesting colonies there? George clarified there is a whole section within this document that talks about what wildlife is there. It is a remote area so there is not as much information as to what is there.

- *Drake's Bay*

Elizabeth Babcock noted that there is some scientific data that indicates it would be nice to extend the zone out more than 1,000 ft. Gerry confirmed it is more anecdotal; there are more wintering birds there, but we have not seen much data. When Gerry introduced it, it was at the very beginning of the process. Elizabeth suggested to dig in a little deeper here for additional scientific data to see if this area could be a slightly bigger zone.

- *Tomales Bay*

George Clyde clarified that the working group did not come to a consensus; pilots and marine scientist split. There was a lot of public comment on this as well. John Largier noted the strong community support for both sides.

Ultimately, based information and input from Working Group members, the Working Group agreed to recommend continuation of the 1,000-foot minimum for existing and new NROZs, but with these additional recommendations:

GR-2-a

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	1	6	4	6	6	5	5	5

It is recommended that the NROZ regulations be revised to exempt flights below 1,000 feet in the NROZs that are necessary for pilot safety that result from unanticipated weather[3].

Along coastal areas, weather and visibility conditions can change rapidly with cloud ceilings often falling below 1,000 feet.

According to the pilots on the Working Group, NROZs along the coastline have the potential to confuse or distract pilots who pass through or over these areas. According to FAA, the pilot is recognized as being directly responsible for and having the final authority as to the operation of the aircraft, per Title 14 of the Code of Federal Regulations, §91.3 (14 CFR § 91.3). The pilots have made a specific recommendation that pilots be exempt from NOAA violations and prosecutions when descending into low overflight zones to avoid adverse weather and/or when exercising their responsibilities and authority during an in-flight emergency under 14 CFR § 91.3. The pilots have requested a policy statement from NOAA that the NROZ regulations do not trump the authority of pilots to fly lower than 1,000 feet in accordance with 14 CFR 91.3 in response to an in-flight emergency requiring immediate action or otherwise as required under FAA regulations.

Pilots are hesitant to declare emergencies. Low overflight zones along the coast are located where there is often unpredictable weather, including reduced ceiling and visibility associated with the marine layer and low clouds. Fear of being cited for an NROZ violation could delay a pilot's decision to declare an emergency if there were civil penalties and large financial fines associated with flight into NROZs.

Advisory Council Directions and Recommendations:

- *John Berge asked if in FAQ document, in terms of rebuttable presumption, if a pilot was to take emergency action would fines or penalties be issued under presumption, or would pilot or NOAA have to prove whether or not they were in an emergency? It would be useful to include in the regulations. Unanticipated weather provides an exemption or defense against any citations*
- *Anne Morkill had an editorial comment regarding that one perspective of the pilots is presented in the body of the report and the marine scientists perspective is written as a footnote. She asked if this could be corrected.*
- *George Clyde said we were acknowledging the pilots request that their views be expressed. There is a lot in here that reflects the pilots perspective, that aren't necessarily recommendations.*
- *Richard Charter noted that NOAA has the existing exemption for activities affecting life and property, and that includes unanticipated weather. Does that include other emergencies? We rely on Sea Ranch, Gualala as two air ambulances. Maria clarified that yes, helicopters come in and do rescues. Law enforcement is included as well.*

[3] Weather is unpredictable on the coastline and is prone to a "marine layer" with the potential to change numerous times throughout the day. Aircraft/Pilots have the need to adjust altitude along the coast because of these weather changes i.e. reduced visibility, fog, cloud ceilings etc.

- *Joshua Russo pointed out 2C on the 91.3 document; is there any talk of adding that language to ours? If a pilot does deviate, would they send a report? There was no talk of that. He suggested that it could be useful in the future for regulations. That would tell us how often it was deviated, e.g. negligence, or self-reporting.*
- *On 5/24/17 the Advisory Council recommended that the Sanctuary makes a request to the FAA to forward or share any information regarding aircraft that file a "FAA report" because they had an emergency.*

Staff Clarifications/Answers to Questions:

- *Rebuttable presumption is to prove whether you were below the NOAA Regulated Overflight Zone. If it is an emergency, it is an exemption.*

GR-2-b

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	6	6	5	6	6	5	5	5

The Sanctuary should consider granting long-term permits for flights below 1,000 feet in NROZs to qualified commercial pilots and operators for special purposes, including education, tourism and photography. It is recommended that permits would be designed to provide full protection of wildlife, taking into account the type of aircraft, the proposed nature of flights (e.g., hovering vs. fly-by, minimum altitudes and horizontal distance from sensitive areas), species protective status, seasonal periods of breeding, important or sensitive breeding and resting areas, and other relevant factors. In some cases, pilots would need to obtain permits from other agencies as well. Permitting should be coordinated with the NPS commercial air tour regulations associated with Golden Gate National Recreation Area and Point Reyes National Seashore.

In addition to long-term permits, it may be desirable to consider a concessionaire program in the Sanctuary for qualified pilots whose business includes regular flights in the NROZ areas and elsewhere in the Sanctuary.

The process for granting expedited permits where there is an immediate and urgent need for low overflights within NROZs should be improved. Examples would be search and rescue operations commissioned by family members after official searches have been terminated or where there is a need for air coverage of newsworthy events. These expedited permits would be subject to all Sanctuary permit requirements.

The permitting processes could be aided by a programmatic environmental assessment that would support a quick turn-around for permit applications.

Special permitting requirements should be considered for UAV operators.

Advisory Council Directions and Recommendations:

- *Elizabeth Babcock asked how many permits are issued per year that tell people they can fly below the current limit.*

- *John Berge asked if an oil spill happens, would sending out aircrafts be considered an emergency.*

Staff Clarifications/Answers to Questions:

- *Most permits are multi-year permits (generally 2-5 years) for research projects or monitoring effort with a range of 4-8 permits per year.*
- *Aircraft would be considered an emergency during an oil spill. Permits including for flying aircraft or unmanned aerial systems or drones, as well as special use permits for activities that are not research or education are typically processed within 30 days at GFNMS.*

GR-3: Horizontal Dimensions of Coastal NROZs

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
4	**6**	**6**	**5**	**5**	**5**	**2**	**1**	**1**

The existing NROZs along the ocean coast and PRNS boundary extend about 1.5 miles from the shoreline. The Working Group agreed that this is more than necessary to protect birds and pinnipeds breeding or resting on shore from low overflights. While the 1.5-mile-wide boundaries create a buffer zone around areas identified as important for birds and marine mammals and are more visible on aeronautical charts than narrower ones, the seaward extent of these zones could affect pilot safety. The unnecessarily wide NROZs generate negative reactions by pilots, undermining the credibility of the NROZs. Data from U.S. Fish & Wildlife Service seabird monitoring at Devil's Slide shows that nearly all aircraft disturbances to seabirds occur from aircraft below 1,000 ft. altitude and within 1,000 ft. horizontal of the nesting colony.

The goal should be protection of the resources, simplicity to comply and enforce, effectiveness as an outreach tool and consistency with the precautionary principle. Accordingly, the Working Group recommended that existing and new NROZs that adjoin the ocean coast extend approximately 1,000 feet seaward from the most seaward points of the coast, as well as offshore rocks and islands.

The Working Group considered two methods of drawing the outer NROZ boundaries:

- Literally following the 1,000-ft guideline minimizes the distance from shore in the event of emergency, where the aircraft's ability to glide to shore may be critical. Also, the pilot's ability to gauge the glide distance to safety becomes more difficult further from shore without specialized instruments.
- Using a measure of one-half mile from the coast would adequately protect seabirds and marine mammals along the coast and would be simple to communicate. But, the half-mile boundary would extend slightly further off shore in many areas, so it could also impact pilot safety as compared to literally following the 1,000-foot line.

Ultimately, the Working Group agreed to recommend literally following the 1,000-ft line.[4]

The actual boundaries may be smoothed and straightened to be consistent with NOAA policies favoring straight lines for protection zones. To meet pilot safety concerns it is recommended that there be as many GPS points as practicable, keeping the glide distance and safety of aircraft in mind.

Advisory Council Direction and Recommendations:

- *John Largier asked if the opposition is that people would rather have a one and half mile. In the working group, there was no case being made to continue one and a half mile. The consensus was that 1,000 feet off the most outlying rock or coast was satisfactory. John Largier asked about the negative votes.*
- *George Clyde clarified that the negative votes reflected a negative view to having any regulations in these areas.*
- *Richard Charter added that we did have a military operation zone along Sonoma coast during World War II and there was the issue with the landing strip south of Goat Rock. They had an emergency landing strip. How did we get from a mile and half to 1,000 ft.? Is the issue a glide path to land on shore?*
- *Gerry McChesney added that it was not clear to us where the mile and half came from. The real goal of this was to protect seabird nesting colonies and pinnipeds along the coast. The pilots' concerns were safety issues with that being so far offshore. We looked at information we have and the data from the Common Murre Restoration Project, which showed that most disturbances were right offshore. They did not talk about whales, pinnipeds, foraging, etc.*
- *Sarah Allen noted that this was solely discussing birds offshore and did not take into account other values. Richard believes that the purple line is hard to enforce, and proposes that a half mile still be considered and not taken off the table, especially since you have the emergency extension if you need to land.*
- *Gerry McChesney clarified that the 1000 ft recommendation included offshore rocks.*
- *Richard Charter requests to ask the agency to continue to explore the half mile off the coast, as it is easier to see and enforce. Elizabeth said that half a mile seems just as arbitrary as one and a half mile. Elizabeth points out that the overflights can be an impact to other types of animals besides birds, which may have been a reason for the mile and a half, to encompass other types of animals or living systems. Does this not merit some additional scientific research and collection of more data since we may be missing some data? Elizabeth recommends doing more digging to think about the appropriate distance should be, but we are open to reducing it.*
- *Gerry McChesney clarified that the working group did not look into it deeply; our guidelines were to look at things directly on the coast. Sarah Allen noted that they did not look at data on the effects over water. If you do a scholarly search, you will not find much information on disturbance.*
- *John Largier asked what the ceiling off shore is – how low can you fly?*
- *Cea Higgins asked how the NOAA attorneys would draw the recommendation of 1,000 feet from the most seaward point and offshore rocks, and if it would be point to point.*

[4] See special consideration for NROZs along the Pt. Reyes National Seashore Boundary, Recommendation GR-6, below.

George clarified they don't necessarily draw it from point to point, it would be up to the artist to make smooth, sensible lines, which could be a series of straight lines. Cea asked if this would reconcile with the flight patterns along the coast, or would a straight line be more beneficial for them?

- *On 5/24/17 the Advisory Council recommended that Sanctuary Staff investigate the following:*
    - *What safe gliding distance to shore and what that means for different size zones*
    - *What "other wildlife values" should be considered such as whales, pinnipeds, foraging wildlife in terms of the horizontal distance.*

<u>Staff Clarifications/Answers to Questions:</u>

- *The current standards of doing government regulations is to make straight lines and the Olympic Coast regulation was enacted years ago. From an enforcement standpoint and in preparation for crafting regulations to get through NOAA attorneys, the purple line is probably not something that would be approved and we would need straighter lines. If this were to move forward, the lines would likely be smoothed and straightened.*
- *In terms of the "ceiling offshore", there is a recommendation that you fly 1,000 ft. over marine mammals wherever you are.*

GR-4: Suggested Improvements to FAA Aeronautical Charts

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby – MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**6**	**6**	**5**	**5**	**5**	**2**	**1**	**1**

The Working Group recommends that the Sanctuary and NOAA ask the FAA to consider making some changes with respect to the designation of the Sanctuary and the NROZs on its aeronautical charts. The Working Group recommended minimizing complexity on the FAA aeronautical charts pertaining to NROZs, as it may cause pilot confusion and may make it more difficult for new and student pilots, as well as experienced pilots unfamiliar with the area, to find necessary information on the chart. This is especially true in the complex airspace such as San Francisco Bay Area.

Below is an excerpt from the current chart as an example:

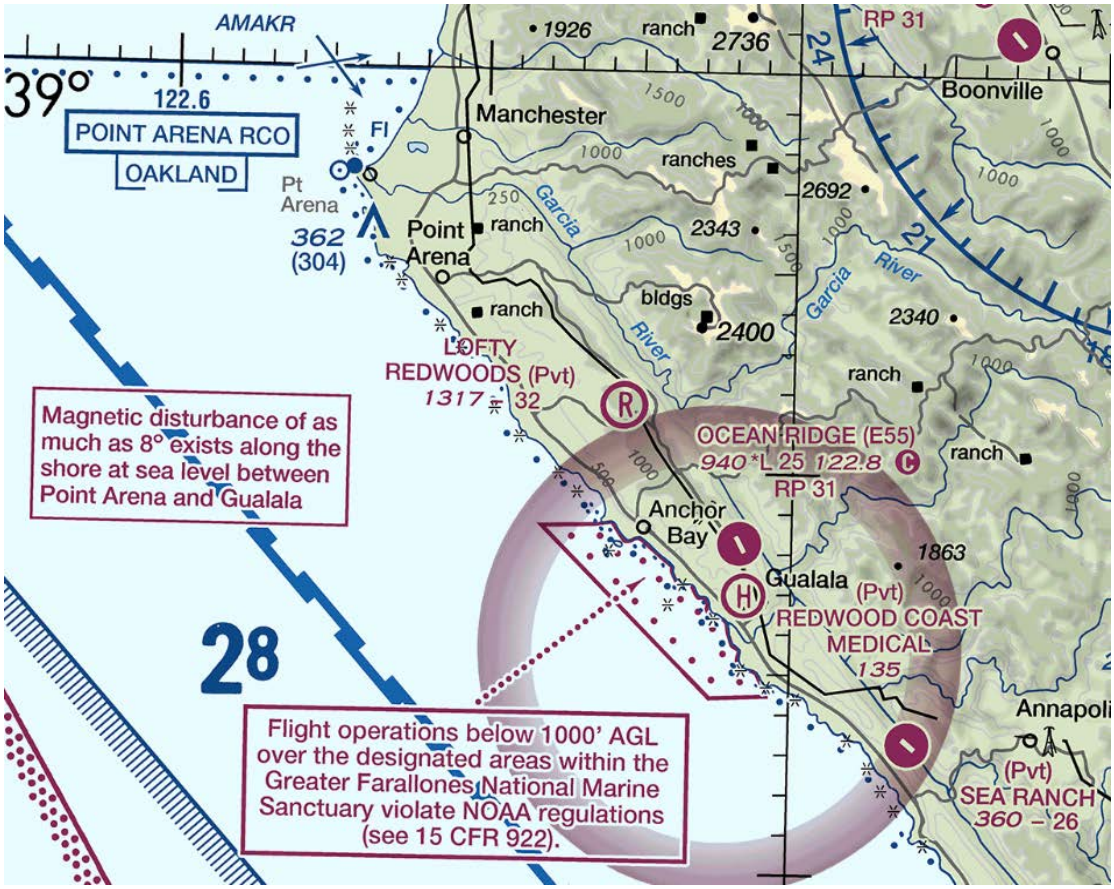


Figure 2 Portion of FAA San Francisco Sectional Chart. Blue dots along the Sanctuary boundaries indicate that aircraft are requested to maintain a minimum elevation of 2,000 feet over the Sanctuary. Magenta boundary lines and dots indicate Sanctuary NROZs.

GR-4-a Blue Dots around Sanctuary Boundaries

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**6**	**6**	**6**	**6**	**6**	**5**	**5**	**5**

The FAA aeronautical aviation charts use blue dots to outline areas where aircraft are requested to maintain a minimum of 2,000 feet AGL. These include certain designated inland areas marking federally protected lands, as well as areas like the Greater Farallones and Monterey Bay Sanctuaries that are considered to be "noise sensitive areas." See FAA Advisory Circular 91-36D and Section 7-4-6 of the FAA Aeronautical Information Manual Official Guide to Basic Flight Information and ATC Procedures (AIM).

The blue dots marking the sanctuaries' boundaries signify an FAA recommendation that pilots maintain an elevation of 2,000 feet over the entire Greater Farallones and Monterey

Bay Sanctuaries. This recommendation is frequently ignored. Furthermore, the blue dot designations showing sanctuary boundaries are confusing and effectively diminish the impact of the 1,000-foot minimum altitudes in the NROZs. The Working Group recommends that the Sanctuary ask the FAA to delete the blue dots designating the sanctuaries' boundaries.

***GR-4-b* Improved Marking of NROZs**

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**6**	**6**	**5**	**6**	**6**	**5**	**5**	**5**

Currently, the boundaries of the Sanctuary NROZs are indicated by a set of magenta colored dots and solid lines. Pilots expressed confusion over the meaning of the dots. In addition, if the horizontal width of coastal NROZs is reduced to approximately 1,000 feet, the dots will be less visible on the FAA aeronautical charts. To put this in perspective, the diameter of the magenta dots inside the boundaries of NROZs on the chart above represent approximately 1,000 feet. While the narrower NROZs will still be visible, the magenta dots will be confusing. The Working Group recommends eliminating the magenta dots and that the charts should show all NROZ boundaries simply with solid magenta colored lines.

Advisory Council Directions and Recommendations:

- *Elizabeth Babcock noted that the FAA maintains a minimum of 2,000 ft. above ground level (AGL). Why would you take that away on the charts? She feels that the dot represents the intention.*
- *George Clyde clarified that having so many different types of dots reduces the impact of the particular low overflight zones (magenta). Cea Higgins noted that if the blue dots are removed, that means the only recommendation is along the coast, showing there is no limitation offshore and planes could fly low in the Sanctuary.*
- *Sarah Allen thought this was the intent – retaining the blue dot, except for these zones that were 1,000 ft. and we do not want to lose the intent of those blue dots.*
  George Clyde stated that they did not get this fine distinction, but it is a good point.
  Retain the blue dots in areas, except for areas where the proposed overflight zones are. That would designate the sanctuary or other federal lands.
- *Elizabeth Babcock proposed a motion to strike this section (GR-4-b).* ***Motion: Elizabeth***
  - *She would not like to suggest that NOAA gets in the business of usability testing and aeronautical charts; might be over where our expertise should be, and we should be pleased that this is already on the charts. She feels that it is counter-intuitive.*
- *Francesca Koe has a different point of view, she thinks that the work group comprised of pilots who are experts in this arena and understand how they use these tools to benefit them in an activity that most of us are unfamiliar with, doesn't benefit from us thinking its going to be used a certain way, when in fact that it would not be used that way. We should be mindful that the working group has been very thoughtful, and the fact that the pilots and other point of view agree on this speaks volumes and she wouldn't want us*

overreaching with good intentions that would then make the people who put this together unempowered moving forward.

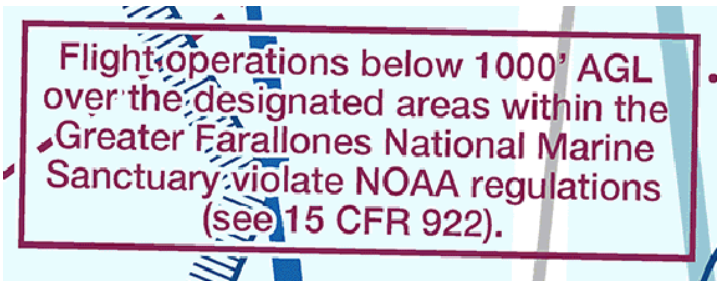
- *John Largier adds he is in favor of putting something in addition rather than remove "dots" for a motion.*
- *George Clyde said this proposal would be to remove them entirely.*
- *Elizabeth Babcock would be open to modifying the motion. There is potential for confusion over whether we are losing this 2,000 ft. recommendation or losing all the dots.*
- *Gerry McChesney said that if you want the 2,000 ft. recommendation to stay, you will have to show the boundaries on the chart. Is there some way to show the boundary without the blue dots?*
- *George Clyde said this is a decision of the FAA; the bottom line is that these blue dots are confusing and they dilute the impact of the low overflight zones. Richard asks if we can show the zones differently, and asked if the group explored anything other than dots.*
- *John Largier suggested that the SAC would like the 2000 ft recommendation to remain and be visible on the charts.*
- *On 5/24/17 the Advisory Council recommended that the Sanctuary Staff communicate to pilots to err on the side of protecting sanctuary resources so that might be a reason to keep the blue dots as is on the aeronautical charts.*

Staff Clarifications/Answers to Questions:

- *In terms of exploring anything other than "dots", this would be recommending to change the FAA charts entirely and would have broader implications to the charts all over the country.*

GR-4-c: Improved Legend Explaining NROZs

Even with narrower areas, the NROZs will easily be noticed by pilots because of the text box that points to the NROZs, as shown in the above chart example. However, the Working Group recommends improving the text currently used, but was unable to agree on a specific recommendation:



Two recommendations that received mixed support were these:

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**0**	**3**				**3**	**3**	**3**

1. *Recommend to the FAA to revise the text box in the following respects:*
   - *Show a reference to the NOAA website, http://sanctuaries.noaa.gov/flight, rather than the CFR citation.*
   - *State the purpose of the regulation: protecting wildlife.*
   - *Clarify that it is not an FAA flight rule.*

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**0**	**6**				**3**	**3**	**3**

2. *Recommend to the FAA that this text be used in the box:*

Flight operations below 1000' AGL in this NOAA Regulated National Marine Sanctuary Designated Area may violate NOAA wildlife protection regulations – not a flight rule violation

Also, there was a favorable discussion of recommending to the FAA use of the Canadian symbol below indicating areas where wildlife may be disturbed. This would be for the NROZ text boxes and elsewhere in areas where there should be an advisory (like Devil's Slide Rock). The meaning of the symbol would be put in the chart legend and the Airman's Information Manual.

Advisory Council Directions and Recommendations:

- *Jaime Jahncke recommends that the word "may" to be taken out. The existing language is very clear that if you go below the 1000 ft. you are violating regulations.*

GR-5: Implications for Other Sanctuary NROZs

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**6**	**1**	**5**	**1**	**1**	**3**	**3**	**3**

To help pilots recognize and understand the NORZs in the Sanctuary and other sanctuaries, it would be desirable for the NROZs to follow the same principles and FAA chart designations in all sanctuaries. Accordingly, the Working Group recommends that the SAC recommend that the Olympic Coast, Monterey Bay and Channel Islands National Marine

Sanctuaries consider revising their regulations to the extent possible to conform to these recommendations. Secondly, the Working Group recommends that NOAA ask the FAA to revise its charts to reflect a uniform approach to displaying the NROZs of these sanctuaries. This recommendation should be made to each sanctuary, to the West Coast Regional Office of the National Marine Sanctuaries, and to the Headquarters of the Office of the National Marine Sanctuaries.

Advisory Council Directions and Recommendations:

- *Richard Charter asked if GFNMS were to adopt the 1,000 ft., would we ask that MBNMS, which currently has 3 miles off the coast, be changed to 1,000 ft.?*
- *George Clyde clarified no. It would say GFNMS would recommend this to other sanctuaries, but that it would of course depend on the area and other reasons.*
- *Dayna Matthews noted, in response to Jaime's comment, that regarding notifications on chart, fishing guidelines, letters from Office of Law Enforcement, they use the word "may" because the violation has not been proven.*
- *Oliver York asked for insight as to why majority of marine scientists were firmly against Recommendation 5.*
- *Gerry McChesney clarified that the group was looking at GFNMS and other sanctuaries may have other resources that they are taking into account. He is sure they will be aware of the process here, but he did not feel like it was our job to go and tell them they should follow the same.*
- *John Largier added that it would not be the Advisory Councils' job to go and tell other Advisory Councils and sanctuaries what they should do.*
- *John Berge added that from a compliance perspective it is beneficial to harmonize regulations to the extent possible. Harmonization is beneficial in terms of compliance from the pilots' perspective.*

GR-6: NROZs Next to Point Reyes National Seashore

In Marin County the Sanctuary boundaries adjacent to PRNS begin at the boundary of the Seashore, which follows the PRNS boundaries that extends one-quarter mile (1320 feet) from the coast. Below is an example of the PRNS coast, with an existing NROZ in purple approximately one-quarter mile offshore of the vulnerable coastline:

Figure 3 The purple area is an existing NROZ at Pt. Reyes. It is about one-quarter mile (1320 ft.) off-shore from the coast and therefore does not cover wildlife on the immediate coast and rocks.

Because of these circumstances, the extra level of protection and pilot education that the NOAA overflight regulations provide in the NROZs elsewhere in the Sanctuary do not cover the PRNS coast and nearby coastal rocks, leaving a quarter-mile gap. The Sanctuary regulations do not extend into this area because it is beyond the Sanctuary boundaries.

The NPS does not have regulations specifically addressing low overflights within the PRNS boundaries. The NPS has regulations banning aircraft (including UAVs) from taking off from or landing on parklands, but they do not specifically provide overflight protection from aircraft that land or take off outside of park boundaries. While there is protection from disturbance of wildlife by low-flying aircraft through the laws and regulations of the NPS, US Fish and Wildlife Service and National Marine Fisheries Service, the additional enforcement provisions of the NROZs are not available in the one-quarter mile along the coast.

In light of these circumstances, the Working Group recommends:

GR-6-a

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**5**	**5**	**5**	**6**	**6**	**2**	**0**	**0**

All existing and new NROZs along the PRNS ocean coast should extend from the Sanctuary/PRNS boundary out 1,000 feet seaward from the boundary (rather than approximately one-and-one-half miles, as they do now). This would provide as much protection as possible given the Sanctuary/PRNS boundary, and the 1,000-ft. NROZs on the FAA charts are also an educational tool for pilots.

GR-6-b

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**5**	**1**	**3**	**4**	**4**	**0**	**0**	**0**

To provide better protection for coastal wildlife within one-quarter mile off the PRNS, the Sanctuary should:

- Consult with PRNS and the NPS to expand the Sanctuary's boundaries to cover the one-quarter mile strip along the coast along the PRNS. Wildlife is not protected from low-flying aircraft by NROZs in these areas. Therefore, an expansion of Sanctuary boundaries, in consultation with the NPS, may be desirable for both the Sanctuary and PRNS.

  There is precedent for Sanctuary boundaries overlapping NPS parkland elsewhere along the coast, including a portion of the NROZ covering Bolinas Lagoon, which is within the Golden Gate National Recreation Area (GGNRA), and the southern portion of the NROZ along Stinson Beach, where the GGNRA boundaries extend one-quarter mile off-shore, but the Sanctuary boundaries follow the coast.

  However, many of the PRNS coastal areas that would be overlapped are Wilderness Areas that were created prior to the establishment of the Sanctuary. The NPS does not favor overlapping jurisdictions for Wilderness Areas under its management, so obtaining joint agency agreements to the Sanctuary's expansion in these areas would likely be challenging. Another issue could be NPS concerns that low-overflight permits issued by the Sanctuary could undermine existing NPS protections, so that would need to be addressed.

- Encourage PRNS and the NPS, in consultation with the FAA, to adopt regulations similar to the Sanctuary's NROZ Sanctuary to cover these special circumstances – where the NPS boundaries adjoin National Marine Sanctuary NROZ boundaries. This would be a special case that would not be precedent for other NPS lands.

- Explore other ways in which the Sanctuary, the NPS and the FAA may provide

additional protection from low overflights and pilot education in the one-quarter-mile strip.

Advisory Council Directions and Recommendations:

- *Sarah Allen noted that she has tremendous respect for NOAA and their relationship with FAA. National Parks Service has been trying for a long time. The overlap between the two boundaries is not possible because of the wilderness values associated with that quarter-mile boundary. There are other issues besides wildlife protection.*
- *Barbara Emely asked if there is an area of biological significance as well.*

Staff Clarifications/Answers to Questions:

- *GFNMS changed the names of the NOAA Regulated Overflight Zones from being defined as state-designated Areas of Biological Significance (ASBS) to being defined by GFNMS as "special wildlife protection zones". The state ASBS' are a water quality protection zones.*

GR-7: Class E Airspace Issues[5]

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**6**	**6**	**5**	**6**	**6**	**4**	**3**	**3**

In addition to site-specific recommendations (near The Sea Ranch airstrip and Tomales Bay), the Working Group generally considered the implications of Class E airspace over the NROZs (including the existing NROZs near Pt. Arena and in the Bolinas/Stinson Beach area), which could require pilots to reduce altitude to 700 feet in an NROZ. We recommend that NOAA consult with the FAA regarding any Class E airspace within existing or proposed NROZs, as Class E airspace requirements supersede NOAA regulations where they are in conflict.

GR-8: Class B Airspace Issues[6]

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**4**	**6**	**5**	**4**	**4**	**1**	**0**	**0**

Pilots on the Working Group recommend against new NROZs below Class B airspace (including FAA designated Flyways below Class B airspace). NOAA Regulated Overflight Zones reduce

[5] See Airspace Definitions and other materials in the Sanctuary Overflight Working Group Reference Materials for definitions and explanations of Class B and Class E airspace.

the available airspace for aircraft to operate, in this case, along the coast. These areas are busy and popular transition areas for VFR aircraft. Reducing the available airspace increases the risk of mid-air collisions. Other members of the Working Group noted that there are different types of Class B airspace that are less restrictive than others. None of the existing or proposed NORZs is below Class B airspace, but we recommend that NOAA monitor changes in Class B airspace and consult with the FAA as to any conflicts, as Class B airspace requirements supersede NOAA regulations where they are in conflict and otherwise can have implications for pilots flying in NORZs.

GR-9: Disturbance of Wildlife by Unmanned Aerial Vehicles (UAVs or Drones) Outside of the NROZs

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**6**	**6**	**5**	**6**	**6**	**3**	**3**	**3**

From the very start and throughout the process, the Working Group members expressed concerns regarding the potential for disturbance of birds and marine mammals in the sanctuaries by unmanned aerial vehicles (UAVs or Drones). While UAVs provide an excellent way for the public to view and photograph sanctuary resources, the sanctuaries need to give special attention to the disturbances to wildlife that they can cause.

Launched from shore or from boats, UAVs have easy access to sensitive areas. Their ability to hover increases the likelihood that a bird or marine mammal could view them as predators, and their wide-angle focal lengths encourage close flight.

Although the Working Group was not given a charge to make recommendations on this issue and was not constituted with representatives of UAV users and the UAV industry to be able fairly to consider the matter, the Working Group desired to make some recommendations on this subject, and the SAC authorized this at its August 2016 meeting. One of our members prepared a statement of the concerns. Barton Selby's Comments on Drones and Related Matters (11/20/16)

As a preliminary matter, it was a working assumption of the Working Group that the current NROZ regulations applied to flights of UAVs along with other motorized aircraft. They are included as "motorized aircraft" under the language prohibiting "disturbing marine mammals or seabirds by flying motorized aircraft at less than 1,000 feet over the waters...". 15 CFR §922.82(a)(11). This is reflected in the National Marine Sanctuary FAQs webpage on the overflight regulations, http://sanctuaries.noaa.gov/flight/faqs.html, (11/11/16):

> Question: Are model aircraft and Unmanned Aircraft System (drone) operations restricted within sanctuary overflight regulation zones?
>
> Answer: Yes. Model aircraft and Unmanned Aircraft Systems (drones) that are propelled by motors qualify as motorized aircraft under regulations of the sanctuaries, and therefore must adhere to sanctuary overflight restrictions. As with traditional aircraft, they could operate above the sanctuaries' minimum altitude limits, provided Federal Aviation

Administration (FAA) regulations allow them to fly at such altitudes. Current FAA rules impose altitude limitations on model aircraft and other Unmanned Aircraft Systems.

However, because this may not be obvious to some, the Working Group recommends that the sanctuaries' regulations be clarified so there is no doubt of their coverage of UAVs in the NROZs. This would help ensure compliance by recreational and commercial UAV pilots and assure that researchers and others involved in non-recreational UAV use within the sanctuaries would obtain permits for their activities, if appropriate.

Additionally, the exploding use of private UAVs in other parts of the sanctuaries presents a significant issue. These include recreational UAV users and commercial and recreational photographers, news reporters, fishing boats, tour boats for observation of whales and other wildlife, and monitoring of wildlife by individuals and organizations. A good summary of the threat is at http://montereybay.noaa.gov/resourcepro/resmanissues/aircraft.html.

The threats are not only to wildlife along the coast and in estuaries. Based on data from the Applied California Current Ecosystem Studies Project (ACCESS), there are significant and predictable concentrations of wildlife, including birds feeding with whales, within the sanctuaries well off-shore. See Presentation by Jaime Jahncke, "Off-shore areas where marine wildlife may be subject to disturbance" (2016). These may also be subject to disturbance by UAVs launched from recreational and commercial boats (as well as other low-flying aircraft).

Under the circumstances, the Working Group strongly recommends that the sanctuaries and the National Marine Sanctuaries regional and national offices give special and early attention to this growing threat to sanctuary resources. These include the NROZs as well as areas within the sanctuaries that are not protected by NROZs. The Working Group recommends a dedicated program to gather information and research UAV's and their present and projected impacts on sanctuary resources.

An aggressive program of outreach and education should be considered as a primary action (including signage at beaches, parks and other places where UAVs are launched along the coast and estuaries, as well as marinas and boat launches that serve boats that may carry UAVs). It should be recognized that UAV operators may lack knowledge or concern regarding their impact on wildlife, generally and in particular locations where they operate, and outreach and education should be tailored accordingly.

As a last resort, new regulations covering UAVs for areas outside of the NROZs may also be indicated. These could include restrictions on launching UAVs within the Sanctuary, following the approach of the NPS in National Parks and managers of many other protected areas.

GR-10: Pilot Outreach and Education Recommendations

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**2**	**2**	**3**	**3**	**3**	**5**	**5**	**5**

The Working Group showed a strong consensus that the most important activity to protect birds and marine mammals from potential disturbance by low-flying aircraft is pilot

outreach and education. Education and outreach is far more important than regulations and enforcement. Indeed, much of the discussion regarding new and revised regulations and improved notations on FAA charts was driven by this conviction.

The advantage of an effective outreach program is that it will educate pilots about the issues and the regulation interaction between the governing agencies. It will also reach more people than an enforcement program. Outreach has the potential to protect all U.S. coastlines and a very large number of marine mammals and seabirds, not only the ones inside the NROZs.

Additionally, an outreach and education program, rather than restrictions, would benefit birds and mammals in other areas of the nation as awareness among the aviation community is increased. The Seabird Protection Network, an existing but small NOAA outreach program, could be an effective avenue for educating the pilot community if provided additional staff and resources.

The Working Group made these specific recommendations regarding pilot outreach and education.

GR-10-a

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
4	**0**	**4**	**4**	**4**	**4**	**5**	**5**	**5**

NOAA Supported Position(s) for Pilot Outreach (including UAVs) – The Working Group believes that the need to reach out and inform pilots to avoid disturbance of birds and marine mammals by low overflights in the Sanctuary and other sanctuaries is of such importance as to warrant a NOAA staff position dedicated to pilot outreach. Focusing on wildlife and its vulnerability in pilot messaging is not effective in itself. Rather, it is key to have someone who can address these issues through the lens of a pilot, with due consideration of pilot safety as well as the protection of the birds and marine mammals – a pilot talking to pilots. The Working Group recommends that the Sanctuary recommend to other West Coast sanctuaries, the West Coast Regional Office and the Office of National Marine Sanctuaries that a position be created as follows:

Title: NOAA Pilot Outreach Coordinator

Requirements: Commercial Pilot with Instrument Rating (preferably helicopter qualified)

Hours per week: Part or full time (performed by one or more people)

Responsibilities to be managed/delegated:

1. Interface with and build relationships with FAA's Flight Standards District Offices, airports, designated pilot examiners (all ratings), flight Instructors, AOPA, Experimental Aircraft Association, California Pilots Association, US Coast Guard, Washington Pilots Association, Oregon Pilots Association, Seaplane Pilots Association,

The Academy of Model Aeronautics, airport managers, and other local and regional pilots' organizations in the local sanctuary areas.

2. Work with FAA to resolve regulatory issues and advance sanctuary interests regarding changes to Classification of Airspace, chart markings, etc.
3. Design and teach/present a NOAA familiarization course/seminar/webinar as an outreach tool and a prerequisite for those pilots who seek sanctuary permits for limited low overflights in NROZs with a training certificate. These could be for NOAA aviation contractors and commercial pilots (fixed wing or helicopters) whose businesses include film documentation, photography, research, education, and sightseeing and concessionaires if a concessionaire program is established.
4. Coordinate any changes with NOAA regulations or the dimensions of NROZs required due to FAA flight or air space changes.
5. Coordinate with environmental regulatory and advocacy organizations to address their concerns and to help develop pilot awareness of wildlife issues and to help the regulators and environmental advocates understand aviation and pilot safety issues.
6. Consult with NOAA, the FAA and other agencies regarding wildlife disturbance issues arising from UAV use and develop UAV pilot education programs and outreach for sanctuary areas.
7. Answer questions of pilots in all media formats (phone, email, blogs and social media).

GR-10-b

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**6**	**6**	**6**	**6**	**6**	**3**	**3**	**3**

Additions to FAR/AIM – The key reference manual for pilots is the FAA's Aeronautical Information Manual. It is often published with the applicable Federal Aviation Regulations and known colloquially by their initials as the FAR/AIM or simply the FAR (http://www.faraim.org/). The Working Group recommends that information referencing the National Marine Sanctuaries' NROZs be included in the Aeronautical Information Manual.

GR-10-c

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**5**

Correct and Improve the Office of National Marine Sanctuaries Overflight Webpages
The Office of National Marine Sanctuaries provides websites regarding potential disturbance of wildlife by low-flying aircraft:

http://sanctuaries.noaa.gov/flight/welcome.html,
http://sanctuaries.noaa.gov/flight/faqs.html, and
http://sanctuaries.noaa.gov/management/permits/aircraft.html.

However, these webpages incorrectly use the words including the root word "restrict" and "prohibit", which is inaccurate, confusing and off-putting to pilots, who look to the FAA for all regulation of airspace. The Working Group understands that these pages and other descriptions of the sanctuary regulations are being revised and updated, but want to make sure that this concern is expressed.

GR-10-d

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**3**	**6**	**5**	**5**	**5**	**4**	**4**	**5**

The internet and websites provide many educational opportunities. For example:

1. Provide a direct link from the sanctuaries' websites to improved NOAA information for pilots, rather than indirectly through the Seabird Protection Network or the Office of National Marine Sanctuaries websites (although those could be cross linked). An example of a direct link from a sanctuary webpage is the Olympic Coast National Marine Sanctuary webpage.
2. Educational programs to which flight instructors can send new pilots, which would provide a certificate of some sort for people who take the course. This could be qualification requirement for long-term sanctuary permits.
3. Create a blog or other interactive website to keep pilots involved with these issues. Possibly costs could be covered or offset by offereing vendors advertising space for the aviation community or grants from wildlife protection groups.
4. With some airports there are site specific websites that are included in pre-flight planning, that could include information about the NROZs and potential wildlife disturbance as well as a link to the NOAA regulations. E.g., http://www.wsdot.wa.gov/aviation/AllStateAirports/CopalisBeach_CopalisState.htm. Including information in pre-flight planning materials is an excellent way to reach experienced pilots and pilots from out of the area.
5. Add information regarding the NROZ in "Additional Remarks" section of the FAA Chart Supplement/Airport Directory, the AOPA Airport Directory, www.airnav.com and similar pilot information sources for airports where

sanctuaries are typical destinations from that airport (in addition to those identified in the site specific recommendations above).

GR-10-e

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**3**	**6**	**5**	**5**	**5**	**4**	**4**	**5**

Contribute information about the need for wildlife protection from low overflights to existing websites that pilots already utilize:

1. FAA websites, including those open to advertising which could also publish messages and links regarding NOAA Regulated Overflight Zones as pro bono advertising.
2. Newsletters and blogs of pilot associations, including Airport Advocate of California Pilots Association.
3. Commercial websites serving pilots and the aviation community, such as AOPA.
4. Military and US Coast Guard websites may provide opportunities for pilot education regarding wildlife protection and the sanctuary regulations.

GR-10-f

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**5**	**6**	**5**	**5**	**5**	**6**	**6**	**6**

Target flight schools, FAA certification programs, flight instructors, and pilot education programs: pilot examiners, Flight Standards District Offices and airport managers. Contacts should be developed at a personal level, establishing personal relationships with key individuals that lead the organization/community.

1. Military and US Coast Guard flight schools, where thousands of pilots are trained each year (including replacement air groups that fly up and down the coast)
2. FAA Safety Team program (FAAST), https://www.faasafety.gov/.
3. Preparation of training syllabus on avoiding wildlife disturbance in coastal areas, including the sanctuaries. This would be made available as a syllabus for the several on-line providers of courses for pilots, certifications and flight instructors. This training could also be required as a condition for permits that the sanctuary would consider for commercial pilots.

4. Provide written materials for backing up the on-line information with on-the-ground education.

GR-10-g

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**4**	**6**	**6**	**5**	**5**	**6**	**6**	**6**

Improve written materials and the program of written outreach to pilots, with pilot input as to the text. An example of a good poster is at printable flyer of the Overflight Poster.

GR-10-h

SAC Members		Marine Scientists				Pilots		
George Clyde- GF	Barton Selby - MB	Gerry McChesney	Jaime Jahncke	Tenaya Norris	Sarah Allen	John duGan	Brian Branscomb	Andy Wilson
6	**5**	**6**	**6**	**5**	**5**	**5**	**6**	**6**

Maintain the updates and accuracies of any FAA information on the proposed, flyers documents and web sites This is of critical importance to pilots.

Advisory Council Directions and Recommendations:

- *Josh Russo suggested looking at opportunities for areas of permitted use for drones. A part of our charter is to allow the public use and public enjoyment of our sanctuaries.*
- *Elizabeth Babcock added as a suggestion for fundraising for the Greater Farallones Association to collaborate with the tech sector with manufacturers of drones – it is the beginning point of the consumption and they are already using environmental issues in their sales and marketing.*

Section 2: Recommendations for Specific NROZs (See the map that follows this table)

Except as indicated in Areas 2i (Devil's Slide Rock) and 2j (Tomales Bay), all of the pilots voted against these proposals and all other members voted for them.

Area (NROZ)	Wildlife to be Protected	Recommendation	Reasons for this Recommendation	Special Considerations and Member Comments	Education and Outreach
2a. Existing Sonoma County NROZs alongside Gualala to the north and Jenner to the South	These areas host most of the largest and most diverse seabird breeding colonies on the Sonoma County coast, including Fish Rocks, Gualala Point Island, Russian Gulch, Russian River Rocks, Arched Rock and Gull Rock. Relatively new and expanding colonies of Common Murres occur at Fish Rocks, Gualala Point Island, and Gull Rock. Other species nesting in relatively large numbers include Brandt's Cormorant, pelagic cormorant, pigeon guillemot, and western gull. Fort Ross Reef is the most important haul-out	Reduce the seaward horizontal dimension of these two NROZs from approximately 1.5 miles to approximately 1000 feet from the most seaward points of the coast and from offshore rocks and islands.	See above discussion of horizontal dimensions of NROZs.	For the Steller sea lion colony (which includes pups) near Fort Ross, the 1,000 ft. horizontal separation may not be adequate for hovering helicopters at 1,000 ft. elevation. – S. Allen	For Boonville, Anchor Bay, Lofty Redwoods, Ocean Ridge, Redwood Coast Medical, Sea Ranch and other nearby airports, add information regarding the NROZ in "Additional Remarks" section of the FAA Chart Supplement/Airport Directory, the AOPA Airport Directory and similar pilot information sources. For local coastal access points such as public beaches, parks, campgrounds, harbors and vessel launching sites, provide signage that advises boaters and other coastal users of NOAA regulations regarding UAV usage in NROZs. See general recommendations in Section 4 regarding UAVs.

Area (NROZ)	Wildlife to be Protected	Recommendation	Reasons for this Recommendation	Special Considerations and Member Comments	Education and Outreach
	on the Sonoma Coast for rare Steller sea lions; fairly large numbers of California sea lions also haul out there as well as Northwest Cape Rocks. Several important harbor seal pupping and haul-out areas occur along here, including the large Russian River mouth site. A small Steller sea lion rookery and California sea lion haul out occurs within the area.				
2b. Area between the two existing Sonoma County NROZ's, approximately 20 miles of coastline including The Sea Ranch, Stewarts Point and Salt Point State Park. This NROZ joins two existing NROZs.	This area has haul-out areas and rookeries for harbor seals along a string of haul-out sites on offshore rocks and pocket beaches. Hundreds of seabirds also frequent the area, including several small colonies of Pelagic Cormorants and Pigeon Guillemots.	Add a new NROZ between the two existing zones, along the Sanctuary coastal boundary and extending approximately 1000 feet seaward from the most seaward points of the coast and from offshore rocks and islands.	While wildlife in this area is not as concentrated as in existing NROZs, there are ample marine mammals and birds to warrant protection from low overflights in this area, and having a single NROZ for this entire coastal area is more informative to pilots and easier for pilot education and outreach, compliance and enforcement. Wildlife in this remote area may be less	NOAA, in consultation with local airport authorities, pilots and the FAA, should address the aviation safety concerns, including Class E Airspace, if any, that the extended overflight zone near The Sea Ranch would have on aircraft taking off from or landing at the airstrip at The Sea Ranch.	Notification to Sea Ranch property owners of new NROZ. Signage at The Sea Ranch airstrip, at Sea Ranch Community Center and at the Boonville, Anchor Bay, Lofty Redwoods and Ocean Ridge airports. For Sea Ranch, Boonville, Anchor Bay, Lofty Redwoods, Ocean Ridge, and other nearby airports, add information regarding the NROZs in

Area (NROZ)	Wildlife to be Protected	Recommendation	Reasons for this Recommendation	Special Considerations and Member Comments	Education and Outreach
			accustomed to human disturbances and therefore more vulnerable to disturbance from low overflights.		"Additional Remarks" section of the FAA Chart Supplement/Airport Directory, the AOPA Airport Directory and similar pilot information sources. For local coastal access points such as public beaches, parks, campgrounds, harbors and vessel launching sites, provide signage that advises boaters and other coastal users of NOAA regulations regarding UAV usage in NROZs. See general recommendations in Section 4 regarding UAVs.
2c. Bodega Head and Bodega Rock	Along the coast of Bodega Head, there are four species of seals and sea lions that haul-out, and there is a small harbor seal rookery at Bodega Head. Bodega Rock hosts a major Brandt's Cormorant colony and a major California sea lion haul-out that is also utilized by	Add new NROZ along the Sanctuary coastal boundary from Mussel Point south to Doran Beach including Bodega Rock. This NROZ extends seaward from the Sanctuary coastal boundary approximately 1000 feet from the coast or any more seaward rocks, including Bodega Rock. The southern boundary of this NROZ should be a line from the southern extent of this NROZ (1000 feet south of Bodega Rock) to the Sanctuary boundary at Doran Beach so as to avoid a gap between Bodega Rock and the rest of the NROZ.	Important area for both bird nesting and marine mammal haul outs. There is a history of air tours over the area to view the "hole" from the planned nuclear power plant.	NOAA, in consultation with the U.S. Coast Guard, should address any aviation safety or other issues that the new overflight zone at Bodega Head and Bodega Rock would have for helicopters or UAVs landing at or taking off from Coast Guard Station Bodega Bay.	For Doran Beach, Bodega Harbor, Spud Point Marina, and local public beaches, harbors and vessel launching sites, provide signage that advises boaters of UAV usage in NROZs. See general comments in Section 4 regarding UAVs.

Area (NROZ)	Wildlife to be Protected	Recommendation	Reasons for this Recommendation	Special Considerations and Member Comments	Education and Outreach
	small numbers of Steller sea lions, elephant seals and harbors seals.				
2d. Existing NROZ at Tomales Point and Bird Rock, along the Sanctuary/PRNS boundary.	There are three species of seals and sea lions that haul-out, and there are several large harbor seal rookeries that extend from Bird Rock south to Elephant Rock south of McClures Beach. These are mainly Harbor seals, but also California Sea Lions haul out on Bird Rock and some Elephant seals on the adjacent beaches. Numerous species of seabirds nest on Bird Rock including a large Brandt's Cormorant colony and rare Ashy Storm-petrels. Brown Pelicans, Brandt's Cormorants, and other seabirds utilize the rock as a roost outside the breeding season. Numerous species	Beginning at Tomales Point and extending southward, reduce the seaward horizontal dimension of this NROZ from approximately 1.5 miles to approximately 1,000 feet from the Sanctuary Boundary.	Important area for both bird nesting and marine mammal haul outs and harbor seal rookery.		For Dillon Beach, Lawson's Landing, Miller Park, and other local public beaches, harbors and vessel launching sites, provide signage that advises boaters of UAV usage in NROZs. See general comments in Section 4 regarding UAVs.

Area (NROZ)	Wildlife to be Protected	Recommendation	Reasons for this Recommendation	Special Considerations and Member Comments	Education and Outreach
	of seabirds nest on Bird Rock including rare Ashy Storm-petrels.				
2e. Extended NROZ to cover McClures Beach and Rock and Elephant Rock along the Sanctuary/PRNS boundary	There are three species of seals and sea lions that haul-out, and there is are several large harbor seal rookeries that extend from Bird Rock south to Elephant Rock. Elephant seals also haul out on the beaches.	Extend existing NROZ at Tomales Point/Bird Rock southward along the Sanctuary boundary to include McClures Beach and Elephant Rock with a horizontal dimension of approximately 1,000 feet from the Sanctuary boundary.	Important area for both bird nesting and marine mammal haul outs and rookeries There are no unique airspace issues here that need to be addressed. No special use needs shown on charts.	These are cliffs, 400-500 feet; can pilots get to the shoreline given proposed overflight restrictions in this area? - Pilot comment	
2f. Existing NROZ at Pt. Reyes along Sanctuary/PRNS boundary	There are four species of seals and sea lions that haul-out, and breed at Pt Reyes. Numerous species of seabirds nest there in large numbers, including rare Ashy Storm-petrels.	Reduce the seaward horizontal dimension of this NROZ from approximately 1.5 miles to approximately 1,000 feet from the Sanctuary boundary.	Highly significant colonies of marine mammals and nesting and roosting seabirds.	Gray whales with calves travel very close to shore at Point Reyes Headland as they migrate north. - SA	
2g. Existing NROZ covering Double Point and south to Bolinas mostly along the Sanctuary/PRNS boundary	There are three species of seals and sea lions that haul-out, and there is a large harbor seal rookery on Stormy Stack and in cove at Double	Reduce the seaward horizontal dimension of this NROZ along the PRNS boundary from approximately 1.5 miles to approximately 1,000 feet from the Sanctuary/NPS boundary. For coastal areas south of PRNS (off of Bolinas and Stinson Beach), reduce the seaward horizontal dimension from approximately 1.5 miles to approximately 1000 feet from the most seaward points of the coast and from offshore rocks and	Highly significant colonies of marine mammals (one of largest harbor seal colonies in state) and nesting and roosting seabirds.		

Area (NROZ)	Wildlife to be Protected	Recommendation	Reasons for this Recommendation	Special Considerations and Member Comments	Education and Outreach
	Point. Sea Lions haul out on Stormy Stack and Elephant seals on the beaches. Numerous species of seabirds nest on Stormy stack including rare Ashy Storm-petrels.	islands. No changes in the NROZ covering Bolinas Lagoon are recommended.			
2h. New NROZ(s) between the two existing NROZ's identified above, commencing at the southeast end of the Pt. Reyes NROZ and following the coast of Drakes Bay along the Sanctuary/PRNS boundary alongside Drakes Beach, the mouths of Drakes Estero and Limantour Estero, Limantour Beach, Point Resistance and Millers Point Rocks, to the north end of the existing Double Point - Bolinas NROZ	Along the northwest and west of this NROZ there is a large elephant seal rookery and haul-out area as well as a California sea lion haul-out area. There are significant harbor seal rookeries and haul-out areas at the northwest end of beach, in Drakes Estero (one of largest in state), and also at Drakes Beach, and at Limantour Beach. At Pt. Resistance there is a significant Common Murre colony. Drakes Bay itself is an important foraging area for	Extend and connect the two existing NROZs along Pt. Resistance, Millers Point Rocks and the entire coast of Drakes Bay along the Sanctuary boundary with a horizontal dimension into Drakes Bay of approximately 1,000 feet from the Sanctuary boundary.	Effectively protects the various wildlife areas along the Drakes Bay shore including Pt. Resistance and Millers Point Rocks. While foraging birds are present in the bay itself during some seasons, restricting low overflights there seems unnecessary as the NROZ along the coast and the topography effectively should discourage low overflights over the entire bay.	Gray whales with calves travel and rest very close to shore at Drakes Bay as they migrate north. -SA	

Area (NROZ)	Wildlife to be Protected	Recommendation	Reasons for this Recommendation	Special Considerations and Member Comments	Education and Outreach
	seabirds and other waterbirds. Drakes Bay is a foraging and migratory pathway for gray whales and humpback whales.				
2i. Devil's Slide Area (Everyone voted a "6" for this except for Bart Selby, who voted "5", and Sarah Allen and Tenaya Norris, who were not present at the time this was considered)	There are significant breeding colonies of Common Murre, Brandt's Cormorant, Pelagic Cormorant, Pigeon Guillemot, and other species on Devil's Slide Rock ("Egg Rock") and along the mainland cliffs in this area.	At this time the Working Group is not recommending a new regulatory zone at this site. The Working Group recommends the following actions be implemented concurrently: 1) Request the FAA to change chart markings to make pilots aware of Devil's Slide Rock and risks to resources: • Create marking on the chart that combines two approaches currently in use over the Lawrence Livermore Laboratory and Alameda Air Station. Use a Magenta Circle and insert a text box that explains that it is a "sensitive nesting area" and "request 1000 Ft. AGL." **Sensitive Nesting Area. Pilots are requested to avoid flight below 1000 Ft. AGL in this area. See Supplement.** A mock-up of this warning on the FAA charts is linked here. • If NOAA would like support to address this with FAA, US Fish & Wildlife Service and others can be asked to write letter of support or even attend meeting, if thought to be helpful.	The Devil's Slide Rock Sub-Group's Meeting Goal was to develop draft recommendations for review by the WG re: Devil's Slide Rock that advance the precautionary principle without creating excessive constraints on pilots, risking pilot safety. The Sub-Group had these Grounding Assumptions: • There are resources to protect on Devil's Slide Rock • There are airspace issues regarding nearby Class B airspace that complicate the issue of regulating this area for overflight. The nearby cliffs, the proximity of Half Moon Bay Airport and the known low-ceiling fog	Has anyone thought about putting a system up to take a picture of low flights? Using infrared or something to note when something is in the zone and can take a picture. This technology can be pieced together. This could be useful for educating about or correcting low overflight and monitoring effectiveness of the efforts. NOAA currently does some of this work related to aircraft monitoring during sensitive seasons for the birds/mammals. – B. Selby	Continue active education and apparently successful pilot outreach for this site by the Seabird Protection Network and others.

Area (NROZ)	Wildlife to be Protected	Recommendation	Reasons for this Recommendation	Special Considerations and Member Comments	Education and Outreach
		2) Immediately engage with FAA's current process to re-consider Class B Airspace to better support this need. i.e., ask FAA to move the current Class B airspace away from Devil's Slide to provide more room to allow pilots more easily to maneuver around Devil's Slide Rock to better protect birds 3) Gather Data • Gather data on whether this approach worked. Commit to a time to revisit this.	conditions also were factors considered.		

2j. Tomales Bay	Tomales Bay is probably the most important estuary between San Francisco and Humboldt Bays for wintering waterfowl, especially Black Brant (a species of goose), diving ducks such as surf scoters, greater scaup, and bufflehead, and other ducks such as northern shovelers and American wigeon. A large double-crested cormorant colony and harbor seal rookery occurs on Hog Island. It is also an important area for nesting and foraging Osprey and bald eagles recently began nesting and foraging there as well. Large harbor seal rookeries occur in Tomales Bay. Harbor seals give birth on sand bars near the mouth of the estuary and at Hog Island. It is an important foraging area for California sea lions and harbor seals, particularly during the winter salmon and Pacific herring spawn.	The Working Group was unable to agree on a Recommendation for Tomales Bay, the mouth of which is included in an existing NROZ.  Below are two proposals considered, the first favored by the pilots as their first choice and the second favored by all the other members of the Working Group. Note - Each option includes a significant Pilot Education and Outreach effort, much like that discussed in the Devil's Slide study area. A. No extension of the existing 1,000' NROZ, but ask FAA to mark the Tomales Bay area south of the existing NROZ with magenta coloring, a text box similar Devil's Slide Rock and possibly a graphic symbol of a bird (see Recommendation GR-4-c). B. Extend the existing 1000-ft. minimum elevation NROZ south to cover the remainder of Tomales Bay up to the Sanctuary boundaries. • Recommend that the NOAA consult with FAA to address any issues that might arise because of the Class E airspace (as described in GR-7 above) in the southern part of the Bay. • Consider whether there should be an exclusion from this minimum altitude for seaplanes or amphibious aircraft unless	From Sub-Group Notes (before WG consideration: **Reasons for this Recommendation** • Wildlife to be protected exist throughout the entire Bay. However, it is recognized that the greatest concentration of breeding species, including cormorants and seals are in the northern part of the Bay, from the mouth of the Bay to south of Hog Island; • It is recognized that any recommendation advanced should protect species, protect pilot safety and where possible, advance uniformity in the dimensions of the protective zones to improve pilot compliance without risking safety. The more uniform and universal restrictions/regulations, across zones, the better. However, this shared view is complicated by the unique features of various study areas and cannot always be upheld when negotiating options for protecting areas. • Relevant FAA regulations that relate to Option B are captured below: FARs > Part 91 > Section 119 - Minimum safe altitudes: General section 91.117 | section 91.121 Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes: (a) Anywhere. An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface. (b) Over congested areas. Over any congested area of a city, town, or settlement, or over any open air assembly	Comments provided to Tomales Bay Sub-Group • George Clyde • Bart Selby See the member comments from the straw poll, linked **here**.	For local public beaches, shore-side viewing areas, tourist destinations, campgrounds, parks harbors and vessel launching sites, provide signage that advises of NOAA regulations regarding UAV usage in NROZs in Tomales Bay. See general recommendations in Section 4 regarding UAVs.

	Steller sea lions rarely occur in the bay, also.		they are transiting the airspace with no intention to land (as proposed by Aaron Singer of SF Seaplanes in his Stakeholder Comment). This exclusion from the NROZ regulations could be seasonal to avoid disturbance and flushing of the large numbers of wintering birds. The Working Group decided it did not have enough information on this subject to make a recommendation, although were strong views pro and con.	of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft. (c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure. (d) Helicopters. Helicopters may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section if the operation is conducted without hazard to persons or property on the surface. In addition, each person operating a helicopter shall comply with any routes or altitudes specifically prescribed for helicopters by the Administrator.		

MAP OF RECOMMENDED REVISED AND NEW NROZS

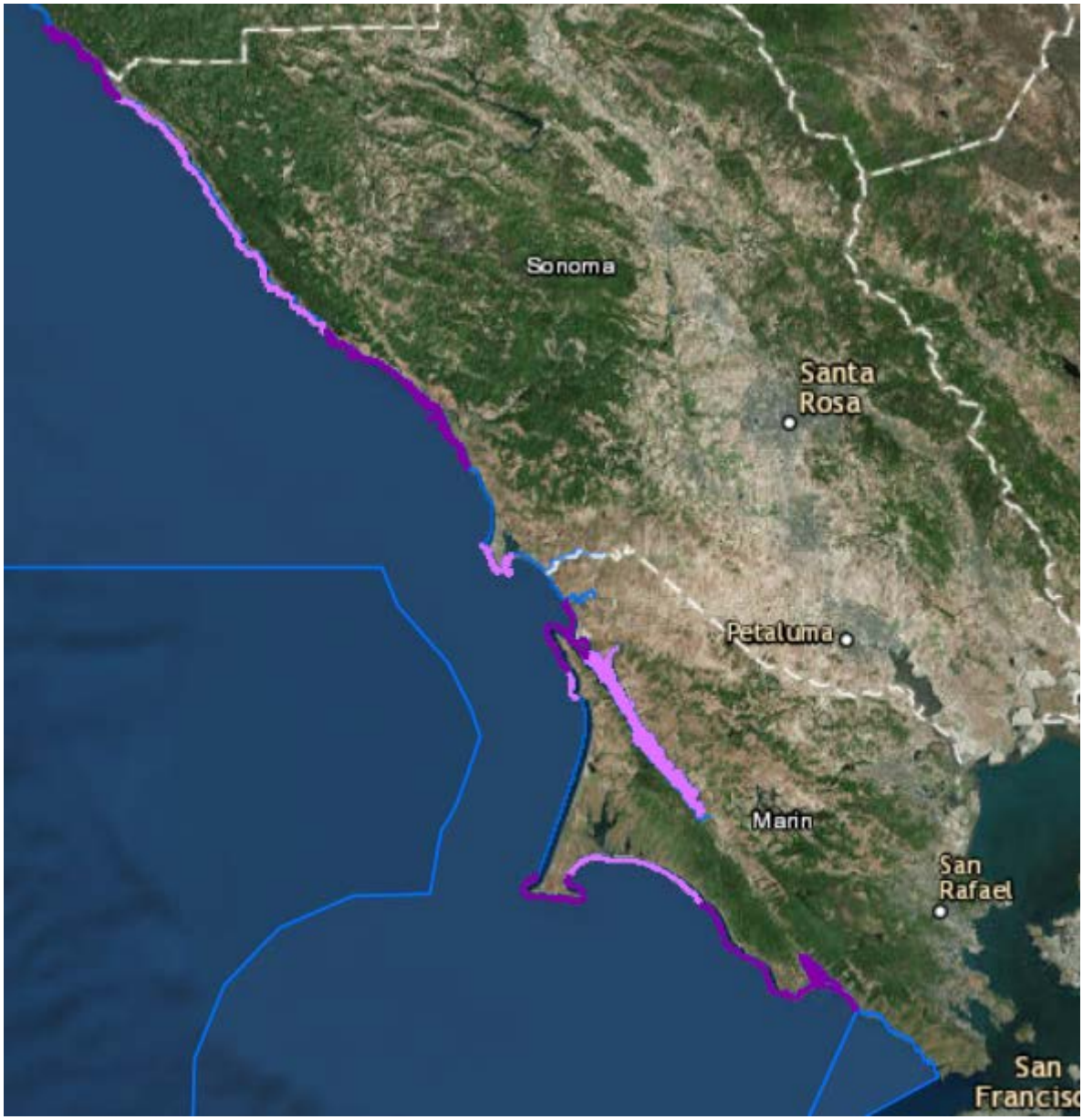


Figure 3 – Areas colored purple are existing NROZs, with reduced horizontal dimensions. Areas colored pink are new proposed NROZs as described above (with the full extent shown for Tomales Bay). In addition, there would be a request of a minimum elevation of 1,000 feet at Devil's Slide Rock.

PART II

ORAL PUBLIC COMMENT RECEIVED ON FEBRUARY 2, 2017

Ashley Eagle Gibbs – Conservation Director, Environmental Action Committee of West Marin. Submitted a written comment letter supporting expanding low overflight zones to full Tomales Bay area for the following reasons: Tomales Bay is a special resource area, local birds and marine mammals are exposed to human disturbance from low flying planes, small boats. The expansion of the Sanctuary warrants the continuation of 1,000 ft minimum for new and existing NOAA Regulated Overflight Zones.

Andy Wilson – Director at large from CA Pilots Association. CA Pilots is unique in that it was started in 1949 – works closely with CA State and FAA. Our regional managers talk directly with their regional managers. Primarily it was a great working group. As for Karen, Jenn, Sage and Matt, the way the committee was set up they were consultants. They did not contribute to the meeting unless they were asked a question. Special thanks for George for all the time put into it. Pilots have two conclusions – comments within the document and an addendum – we would prefer no overflight designations and more on education. The documents that are posted – the aviation committee has just began to post those and Andy is getting comments already – contributes to outreach. In conclusion – the pilots asked in our addendum that we prefer not to expand these zones, but expand more in the area of outreach. Oregon Pilot Association –about to reach out to have them to post the documents. Jenn and George word of caution – you could seek comments.

Jim Weigand – Ecologist with Bureau of Land Management (BLM) – BLM includes 20,000 rocks, islands, and mainland coast terrain amounting to 9,000 acres. We work closely with GFNMS. Want to give say thank you council members, scientists and pilots for sharing their knowledge in this process. National Monument recommends minimum flight elevation at 2,000 ft. above sea level and horizontal distance of 0.5 miles from these important seabird and marine mammal locations. We appreciate the recognition of the important wildlife areas coastally in Sonoma County. We welcome the opportunity to meet with pilots, council members and public to discuss particular environmental concerns. We ask the council to also make a proposal for any education and media flights that wish to fly at lower levels within vicinity with CA Coastal Monument – to consult with the manager of the CA Coastal Monument. Also, ask to consider in this effort to expand the area of coverage to include portions of Mendocino County that are part of the expanded area. Finally, express for BLM the appreciation of unified support for the Devil's Slide Area and its seabird population.

Bob Johnston – lives in Inverness and on the Inverness Association Board. The Association Board submitted a letter that is on record. Bob is a retired professor from UC Davis and taught public policy analysis methods and related classes. Multi-objective decision-makings that applied to various federal agencies at the time. High-level decision rule that is commonly used by federal agencies, in general when you have competing activities in a physical location you favor that activity that cannot occur elsewhere. Most flights in Tomales Bay are discretionary, however the bay is not discretionary for many species of birds and marine mammals. The most important aspect of the pilots' comments were the issues around safety – those issues seems to have been taken care of by the exemption for bad weather and emergencies. According to these

conclusions, I support the working group recommendations including extending the zone over all of Tomales Bay. It seems better for birds and will be safer for pilots.

Richard James - Lives in Inverness and spend a great deal of time on and around Tomales Bay to observe bird and sea life. Congratulations George & Working Group. Initially support recommendation, like to see the overflight extended with caveat. Monitoring marine debris in and around the bay – biggest source is aquaculture. He is aware of the use of flying cameras being used to document where the debris shows up. Richard suggests that we allow for the framework for a permit such that in the hands of a skilled and conscious person they can use it to monitor the marine debris. Richard is aware of one oyster growing company that is interested in using one of these.

PART III

WRITTEN PUBLIC COMMENT SUBMITTED TO SANCTUARY ADVISORY COUNCIL

Greater Farallones National Marine Sanctuary Advisory Council Meeting February 1st, 2017

Written Public Comments regarding Low Overflights Working Group Recommendations

Received January 22nd – January 26th, 2017

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George Clyde, Chair
Greater Farallones National Marine Sanctuary Advisory Council
Working Group on NOAA Regulated Overflight Zones

January 20, 2017

To the Members of the Sanctuary Advisory Council
Attn: John L. Largier, Chair

Dear Members of the Sanctuary Advisory Council,

Yesterday, I transmitted to you the Recommendations of the Working Group. By this letter I am separately transmitting the statement prepared by the three Pilots in the Working Group (the Pilots' Statement) expressing their views, which they summarized as follows:

> At this time the pilot group cannot support any new low overflight regulations that do not coincide with the existing FAA regulations. We feel that these proposed NOAA regulations would cause greater safety issues, and we request that moving forward 100% of the Marine Sanctuaries resources be put into an enhanced Education and Outreach Program, Furthermore, the pilots have agreed to remain engaged and offer to be a continued resource, including whether the FAA's jurisdiction over airspace precludes NOAA from establishing NOAA Regulated Overflight Zones (NROZs).

To clarify, the Pilots' Statement is a separate statement by the three pilots, but has not been considered by the Working Group and is not a part of the Recommendations. The pilots presented these views to the Working Group during our deliberations, but it was agreed that they should be distributed to the Sanctuary Advisory Council (SAC), separate and apart from the Recommendations, and not attached to or appended to them.

Nevertheless, the views expressed are shared by others in the aviation community, and it is only fair that they be formally presented to the SAC, separately from the Recommendations, and separately posted on the Sanctuary's website. In addition to presenting views that the SAC members may wish to consider along with public comments and further explaining their votes against any new NROZs, distributing and posting the Pilot's Statement recognizes the many contributions made by the pilots during approximately 60 hours of meetings, and it honors the commitments I made to them as the Working Group Chair.

Please distribute and post the Pilot's Statement, accompanied by this letter, in the same manner as with the Recommendations.

Sincerely,

Pilots Comments to Working Group Recommendations

Pilots comments to;

Greater Farallones National Marine Sanctuary Advisory Council

Greater Farallones Sanctuary Overflight Working Group

Andy Wilson-Private Pilot (Instrument rating)

Brian Branscomb-Commercial Pilot (ATP, CFI)

John duGan-Commercial Pilot (Helicopter)

January 18, 2017

The Pilots ask that the Sanctuary Advisory Counsel forward the following statement to the Superintendent.

First, we would like to express our gratitude to the Greater Farallones National Marine Sanctuary Advisory Council for inviting us to participate in the Overflight Working Group.

With that said, We acknowledge the effort and resources expended by the Sanctuary to directly involve the aviation community to address disturbance issues through this unique process. We feel that it has been an extremely interesting and informative experience collaborating with our fellow working group members to better understand the myriad of issues and challenges potentially affecting marine resources along the central California coastline.

Throughout this process, we have worked diligently regarding overflight disturbance concerns and to educate the working group members on the basics of aviation principles, including weather and corresponding FAA flight rules and regulations, limitations, and potential emergency scenarios.

While we met over the past year in good faith, and throughout the process we have generally supported some concepts, most specifically the Education and Outreach recommendations, but for the numerous exposed safety concerns we simply cannot support the final document for two overarching reasons:

Airspace Regulation:

Despite multiple discussions during the Working Group meetings, at the end of this process, the pilots remain certified and regulated by the Federal Aviation Administration, and unconvinced that NOAA has the authority or mandate to regulate any airspace within the National Airspace System (NAS). We are trained that the FAA is the sole federal agency with responsibility to manage and regulate the NAS. The NOAA “rebuttable presumption" implies that flights below 1000 ft AGL in the overflight zones cause disturbance. We perceive that this is a flight restriction regardless of the legal language and this may create an unsafe level of confusion in the aviators’ cockpit.

As a result of this potential misunderstanding, we strongly believe that these NOAA zones can burden aviators to the point of confusion in specific weather or emergency situations.

Education and Outreach: GR-10; pilot Outreach and Education recommendations

Throughout this process, we have continually expressed our support for minimizing disturbances to the marine life along the coast by aircraft and all other factors. We strongly believe that Education and Outreach is the most effective way to approach the issue of protecting the nation's marine mammals and seabirds while simultaneously respecting and ensuring the safety of aviators and their passengers.

In our professional opinions, a sustained, targeted Education and Outreach Program would be much more productive and effective than the current convoluted regulatory approach.

The aviation community is motivated and desires to be good stewards of the environment and our shared marine resources. Our approach would be to do this through the Federal Aviation Regulations (FARs), a language the aviators are trained & certified to understand.

Public Right of Transit
Sec 104: There is here by recognized and declared to exist in behalf of any citizen of the United States a public right of freedom of transit through the navigable airspace of the United States. Public Law: 85-726-Aug 23-1958

The FAA has almost 100 years of experience in safely managing the National Airspace System and over that time has learned at the cost of numerous lives, the attention to detail that is required. NOAA, as a potentially a new "airspace regulating agency", to go through the same learning curve, we feel could be the cost of additional life's.

In summary

At this time the pilot group cannot support any new low overflight regulations that do not coincide with the existing FAA regulations. We feel that these proposed NOAA regulations would cause greater safety issues, and we request that moving forward 100% of the Marine Sanctuaries resources be put into an enhanced Education and Outreach Program, Furthermore, The pilots have agreed to remain engaged and offer to be a continued resource.

Thank you for your consideration

Respectfully

The Pilots

AUDUBON CANYON RANCH
acr
conservation in action

Cypress Grove Research Center
Audubon Canyon Ranch
P.O. Box 808, Marshall, CA 94940
415.663.8203
www.egret.org

25 January, 2017

Greater Farallones National Marine Sanctuary Advisory Council
RE: Regulation of low overflights on Tomales Bay

Dear Members of the Advisory Council,

ACR (Audubon Canyon Ranch) works to protect nature through conservation science, environmental education, stewardship of natural areas, and ecological restoration. We own and manage a system of wildlife sanctuaries in Sonoma and Marin counties, including approximately 450 acres of shoreline properties distributed throughout Tomales Bay (http://egret.org/sites/default/files/publicpdfs/acr-preservesmap-march-9-2016.pdf). ACR properties on Tomales Bay include Toms Point and Walker Creek Delta at the northern end of the bay, Olema Marsh and other shoreline properties near or adjacent to the Giacomini Wetlands at the southern end of the bay, and numerous other properties along the bay's eastern and western shorelines. Since the early 1970s, ACR has conducted research, education, and conservation activities to help ensure the long-term protection of the natural resources of Tomales Bay. We seek to protect avian habitat values and to minimize disturbance to waterbirds and shorebirds on and near our properties.

Please consider the following concerns associated with the disturbance of waterbirds and shorebirds by low overflights on Tomales Bay:

The importance of a baywide expansion of the low-overflight protection zone

Although ACR has not quantified the frequency of low overflights in Tomales Bay, or documented associated impacts on wildlife, I have observed occasional disturbances to waterbirds by low-flying aircraft, continually since the late 1980s. Low-flying aircraft typically track the linear shape of Tomales Bay, resulting in long, wide bands of disturbance. Some of these flights are very low to the water, apparently seeking to stimulate the disturbance behaviors of waterbirds which can take flight in spectacular fly-ups. During such events, large numbers of waterbirds are forced to flee from their feeding and roosting areas. Observers at ACR have witnessed this effect numerous times, primarily from the vantage point at ACR's Cypress Grove Research Center in Marshall, in the middle portion of the bay. ACR strongly recommends expansion of the low overflight protection zone to include all of Tomales Bay.

Baywide protection of waterbird assemblages

Winter waterbird species exhibit consistently different distributions within Tomales Bay, with particular species generally occupying different portions of the bay. These differences are associated with particular habitat values that are important in sustaining baywide waterbird numbers. Although the richness of Tomales Bay waterbird species can be observed in most areas of the bay, the

conspicuous differences in species distributions have been consistent for decades. These differences strongly suggest that the assemblage of waterbirds in Tomales Bay depends collectively on all portions of the estuary. Therefore, the reasonable protection of waterbird abundances from disturbances by low overflights would require a baywide regulation zone.

For example, large, diverse concentrations of Lesser Scaup, scoters, widgeon, several species of dabbling ducks, and other waterbirds consistently occur in the shallow waters south of Millerton Point. This area provides important, alternative habitat for birds foraging in tidally influenced habitat in the Giacomini Wetlands, or seeking refuge from seasonal hunting disturbance in the State Ecological Reserve at the south end of the bay. Concentrations of 6,000 to 8,000 Greater Scaup occur primarily from Tomasini Point northward to Reynolds. Tomales Bay's noteworthy-but-dwindling winter population of Black Scoters occurs almost exclusively in this area. The 6,000 to 8,000 Greater Scaup that normally winter in Tomales Bay, concentrate almost entirely in the southern portion of the Bay, primarily in the vicinity of Tomasini Point.

The northern portions of the Tomales Bay support hundreds of Red-throated Loons, but these birds occur primarily from Pelican Point (south of Hog Island) to southward to Cypress Point—and they occur in very low numbers elsewhere in the bay. Western and Clarks Grebes concentrate primarily in restricted portions of the bay, along the east shore, near Marconi Cove, and in the middle and west side of the bay between Sacramento Landing and Marshall Beach. Brant concentrate primarily between Pelican Point and Toms Point, including the shallow waters in the Vincent's landing area north of Walker Creek. Dense and diverse concentrations of waterbirds occur in this broad north-central area of the bay, including Walker Creek Delta, Vincent's Landing, and White Gulch, where extensive eelgrass provides suitable foraging habitat. Walker Creek Delta is an important roosting area for White Pelicans, Great Egrets, and other waterbirds. Thousands of Ruddy Ducks often occupy the eastern shoreline of Vincent's Landing north of Walker Creek and just south of Walker Creek to the north of Nick's Cove. A wintering population of Red-necked Grebes, which are uncommon in northern California, occurs consistently throughout the deeper waters along the west shore from Pelican Point to Sand Point. These and other examples indicate the need for baywide expansion of protection from low-overflights in Tomales Bay.

Seasonal impacts

The number of wintering waterbirds in Tomales Bay has increased substantially since the late 1990s (Kelly and Tappen 1998; ACR, unpublished data), with waterbird numbers now exceeding 35,000 birds from October through April, declining into early May—not including several thousand gulls and 10,000-20,000 shorebirds. From late June through September, southbound migrant shorebirds frequent intertidal feeding areas throughout the bay, giving way to winter residents in October and November. Caspian terns do not breed in Tomales Bay, but they travel here from San Francisco Bay during summer to forge along the shoreline, use undisturbed beaches and sand flats throughout the bay for roosting and courtship—and even to provision their young which accompany them after fledging. Caspian Terns fly routinely between the southern end of the bay and nesting sites in San Francisco Bay. In June, White Pelicans arrive after nesting and can be seen through summer months foraging throughout Tomales Bay.

Although waterbird abundances decline in summer, the year-round value of Tomales Bay to waterbirds suggests the importance of year-round, baywide protection from low overflights. An attempt to seasonally regulate overflights to focus solely on wintering waterbirds would seem

incomplete, potentially confusing, and difficult to manage. In addition, other sources of human disturbance peak during the summer, suggesting that low overflights during the summer months may increase the cumulative effects of human disturbance on waterbirds.

Disturbance thresholds

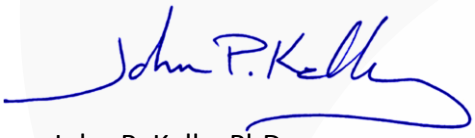
According to avian foraging theory, birds are likely to increase their energy intake to compensate for energetically expensive escape flights, as when disturbed by low overflights. In addition, disturbed waterbirds fly to less-profitable areas away from the disturbance. Under conditions when birds are operating near their threshold of energy balance, or when feeding opportunities are restricted by other forms of human activity or disturbance, waterbird abundances in a given area may decline. Consequently, even small or infrequent disturbances to foraging waterbirds degrade the quality of their preferred habitat areas. Please see the attached review of waterbird disturbance by boats in Tomales Bay (Kelly and Evens 2013).

Seaplanes and helicopters

I do not know of any feasible areas in Tomales Bay where seaplanes or helicopters could land or takeoff without risking substantial disturbance to wildlife.

Thank you for this opportunity to comment.

Best wishes,



John P. Kelly, PhD
Director of Conservation Science
john.kelly@egret.org

Attachments:

Kelly, J. P., and J. G. Evens. 2013. A review of boating disturbance to waterbirds in California estuaries. Audubon Canyon Ranch ACR Technical Report 89-12-6, Audubon Canyon Ranch Cypress Grove Research Center, P. O. Box 808, Marshall, CA 94940.

Kelly, J. P., and S. L. Tappen. 1998. Distribution, abundance, and implications for conservation of winter waterbirds on Tomales Bay, California. Western Birds 29: 103-120.

East Shore Planning Group
P. O. Box 827
Marshall, CA 94940
ESPG@eastshoreplanninggroup.org

January 24, 2017

Greater Farallones National Marine Sanctuary Advisory Council
c/o Greater Farallones National Marine Sanctuary
991 Marine Drive, The Presidio
San Francisco, CA 94129

Attn: John Largier, Chair

By email to Jenn Gamurot - NOAA Affiliate, jenn.gamurot@noaa.gov

Tomales Bay - NOAA Regulated Overflight Zones

I am submitting these comments regarding the proposal to extend the existing NOAA Regulated Overflight Zone at the mouth of Tomales Bay to cover all of Tomales Bay. The Sanctuary Advisory Council will be considering this at its February 1 meeting in Pt. Reyes Station as indicated in http://farallones.noaa.gov/manage/sac_meetings.html. This is Item 2j of the Working Group's Recommendations.

The East Shore Planning Group is a California not-for-profit corporation formed in 1984 whose members include about 90 owners and tenants of properties on the east shore of Tomales Bay, which is in the unincorporated area of Marin County. All of Tomales Bay is within the boundaries of the Gulf of the Farallones National Marin Sanctuary except for a relatively small portion of the Bay that lies within the Point Reyes National Seashore.

Tomales Bay is one the most pristine estuaries in the world. It serves as a wintering and breeding area for tens of thousands of birds – some endangered – and for a large colony of harbor seals with several haul-out areas in the Bay. The newly restored Giacomini Wetlands at the southern end of the Bay is attracting even more birds to the area. Increasingly we are seeing eagles and other raptors fishing in the Bay and nesting in the area.

But, aircraft engaging in low flights over Tomales Bay increasingly are disturbing these populations. In addition to low-flying sightseeing and pleasure flights, there are helicopter landings on the beaches and even sea-planes occasionally landing in the Bay. Drone usage is

increasing and poses a particular risk of disturbance to wildlife. These cause flushing and other serious disturbances of these animals.

There is absolutely no reason that these unnecessary flights and disturbances that disturb wildlife should be permitted to continue. All of the reasons for the Sanctuary's rules restricting flights over Bolinas Lagoon apply to Tomales Bay, but Tomales Bay has much larger populations of seabirds and marine mammals than Bolinas Lagoon.

For these reasons, the Board of Directors of the East Shore Planning Group respectfully requests that the Sanctuary Advisory Council recommend to the Sanctuary Superintendent to include all of Tomales Bay as a NOAA Regulated Overflight Zones.

I would be happy to provide further information in support of these views or to invite your representatives to meet with our organization to discuss this. In the meantime, I thank you for your consideration of these comments.

Sincerely yours,

Mary Halley

Mary Halley, President
East Shore Planning Group

COUNTY OF MARIN

BOARD OF SUPERVISORS

Marin County Civic Center
3501 Civic Center Drive
Suite 329
San Rafael, CA 94903
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415 473 3645 F
415 473 6172 TTY
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January 23, 2017

Greater Farallones National Marine Sanctuary Advisory Council
Fort Mason, San Francisco, CA

RE: Proposed Modifications to NOAA Regulated Overflight Zones in or Adjacent to Marin County

Dear Sanctuary Advisory Council Members,

Thank you for the opportunity to comment on the recommendations being considered by your Council regarding NOAA Regulated Overflight Zones (NROZ), specifically those located in or adjacent to Marin County. As you may recall, in 2011, the Marin County Board of Supervisors endorsed amendments to National Marine Sanctuary regulations regarding low overflight zones with the goal of protecting the unique resources in the Sanctuary. Our Board is pleased to reiterate its strong interest in protecting these resources and urges your Council to support inclusion of the proposed new zones located in or adjacent to Marin County in your final recommendation to the Sanctuary Superintendent.

The Board of Supervisors appreciates the careful approach your Council has taken on this issue, including the composition of the working group members and their detailed report. The affirmation that flights under 1,000 feet in elevation have a negative impact on the marine mammals and seabirds is of great concern, given Marin's location on important migratory routes and the remarkable diversity of species, included listed species, in this area.

Specifically we endorse the inclusion of the following areas as NOAA Regulated Overflight Zones:

- Along the Marin Coast from the existing NROZ at Tomales Point southward to, and including, McClures Beach and Elephant Rock;
- Along the Marin Coast and from the existing NROZ at Pt. Reyes along the Drakes Bay coast to the existing NROZ that covers Double Point and the Bolinas coast; and
- Tomales Bay, south of the existing NROZ that extends from the mouth to Tom's Point.

Thank you for the consideration of our input, and please do not hesitate to let us know of any questions we may help to address.

Respectfully Submitted,

Judy Arnold

Judy Arnold, President
Marin County Board of Supervisors

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Tamales Bay NROZ extension to the South.

mrplaister <mrplaister@gmail.com> Sun, Jan 22, 2017 at 4:11 PM
To: jenn.gamurot@noaa.gov

My name is Malcolm Plaister. I've been a commercial airline pilot for 30 years and I also fly recreationally. I live in Marshall on Tomales Bay.

As a resident, I have seen airplanes flying very low up and down the bay. The high ground on either side of the bay and the complete absence of a safe landing site that does not cause undue hazard to persons or property on the surface (an FAA requirement in the event of engine failure) makes flying in this area, at low level, extremely reckless. The proximity of thousands of birds is an additional hazard. A birdstrike at low altitude, in the tricky terrain surrounding the bay would be devastating.

As a pilot, I find the current charts very confusing. There are multiple blue dotted lines within Tomales Bay depicting (I believe) the different boundaries of the Greater Farallones National Marine Sanctuary and the Point Reyes National Seashore. It is not at all clear what my minimum altitude should be while flying over the Southern end of Tomales Bay. The 1000ft requirement at the Northern end of the bay is clear and easy to understand.

I also believe that flying below 1000ft AGL in Tomales Bay does disturb the amazing and extensive wildlife inhabiting the area. I am therefore in favor of extending the 1000FT minimum elevation NROZ South to cover the remainder of Tomales Bay up to the sanctuary boundaries. The extension of the area is the in the best interest of safety, clarity and local wildlife.

With best wishes.

Malcolm. Plaister

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Proposed NOAA Overflight Zones

Bob Wood <bwood@jatoaviation.com> Tue, Jan 24, 2017 at 7:01 PM
To: Jenn.Gamurot@noaa.gov

Dear Jenn Gamurot

It has come to my attention that The Greater Farallones National Marine Sanctuary Advisory Council , is considering formulating plans that would affect the airspace along certain coastal areas along the California Coast.

As a Certified Flight Instructor, I am responsible for ensuring the safety of my student and pilot clients by teaching the responsibilities and obligations of adhering to Federal Air Regulations (FAR's), These rules and regulations pertain to airspace within the United States. 14 CFR Part 91.119, specifically pertains to "Minimum Safe Altitudes."

I appreciate the implications and necessity of protecting Marine Wildlife. My syllabus includes the admonishment that flights over all charted Marine Sanctuaries should be no lower than 1000 ft and preferably above 2000 ft. At San Carlos, our Airport Management team, under the leadership of Gretchen Kelly, has a dynamic pilot education program to alert pilots to the sanctuary's, and the need to maintain a safe altitude above or around them. However, as is clearly stated in FAR 91.3 (b) *"In an in-flight emergency requiring immediate action, the pilot in command may deviate from any rule of this part to the extent required to meet that emergency".* Attempting to observe a multitude of requirements from outside agencies would undermine my safety.

It is my understanding that the US Government, and the FAA (thru the DOT) are the sole regulators of airspace. To allow another Governmental Agency the privilege of arbitrarily changing those rules would effect the safe operation of my aircraft.

It is for this reason that I must strongly protest your actions, as currently considered.

Changing the rules and regulations pertaining to airspace require a formal process of publication and comment period, to ensure that the rights of all parties are considered. Because the FAA is responsible for regulating airspace, and because there has been no formal publication or comment period as required to change an Federal Aviation Regulation, I strongly protest your actions as currently considered.

I look forward to working with you, within a framework that considers the requirements of changing an existing FAA Regulation, pertaining to airspace, as it relates to the safe operation of my aircraft.

Sincerely,

Robert E Wood, CFI

SQL-JATO Aviation

Bob Wood
bwood@jatoaviation.com

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

NOAA Proposed regulated overflight zones

Douglas Palmer <wetlandings@gmail.com> Wed, Jan 25, 2017 at 7:45 PM
To: Jenn.Gamurot@noaa.gov

Please do not change the current overflight rules, doing so will compromise safety of flight in and out of Half Moon Bay Airport (KHAF). Specifically the Devils Slide/Bird Rock area forces pilots to negotiate below a low Class B ceiling in a congested air traffic corridor while also managing the fog in an area that commonly has turbulent winds. It is also proximate to the arrival and departure patterns to KHAF so pilots are already operating in the highest workload phase of flight.
I appreciate the concern for the nesting seabirds, and have personally tried to keep as close to the 1500 foot ceiling as I can for both the birds and flight safety. I feel that the large majority of local pilots know about the sanctuary and do their best to give the birds their space. However it is the nature of airports that landing and departing transient aircraft are the most likely to fly in unaware of a NOAA restriction. All pilots expect the FAA to be the authority regarding the use of airspace and without exception, Citations issued through NOAA would be unusual and cause a great deal of confusion and legal wrangling. I would encourage you to spend instead resources with a better outreach and education program in conjunction with the FAA.

Thank You for your consideration
Doug Palmer
415 336-8081

50 F St. NW, Suite 750
Washington, D.C. 20001

T. 202-737-7950
F. 202-273-7951

www.aopa.org

June 29, 2016

George Clyde
Chair
Overflight Working Group
Greater Farallones National Marine Sanctuary Advisory Council
Submitted to: overflightwg@gmail.com

Re: Greater Farallones National Marine Sanctuary Advisory Council Working Group on Low Overflight Regulation Zones: Request to Comment on New or Expanded Low Overflight Regulation Zones

Dear Mr. Clyde,

The Aircraft Owners and Pilots Association (AOPA), the world's largest aviation membership association, submit the following comments in response to the proposed National Oceanic and Atmospheric Administration (NOAA) low overflight regulation zones to be located over Tomales Bay, Sonoma County coast, Marin County coast, and Devil's Slide, CA. While AOPA supports NOAA's mission to conserve and manage coastal and marine resources, we are concerned with the far-reaching effects and implications of this proposed expansion and establishment of low overflight regulations zones. Based on the concerns presented below, AOPA cannot support the proposals.

FAA's Sole Authority to Regulate Airspace

According to Article 49, Section 40103 of the US Code, the Federal Aviation Administration (FAA) has the sole authority to regulate the use of the national airspace system. In the National Parks Air Tour Management Act, Congress recognized that the FAA has sole authority to control airspace over the United States. It also recognizes that the FAA has authority to preserve and protect the environment by preventing the adverse effects of aircraft overflights. It is our belief that further expansion of these low overflight regulation zones usurps that authority and permits NOAA to regulate flight operations in the national airspace system. A pilot operating within navigable airspace in the national airspace system and in full compliance with all Federal Aviation Regulations (FAR) could be subject to NOAA enforcement action based solely on the location of his/her aircraft.

Pilots have a reasonable expectation to be familiar with applicable FARs and the operating parameters established therein. If the FAA permits other agencies to regulate airspace, to what end will pilots be expected to know, understand, and follow regulations of countless other agencies? Such an action would create a patchwork quilt of overlapping and potentially contradictory regulations from Federal, State, and local agencies. On this point, the FAA issued a December 2015 document titled "State and Local Regulation of Unmanned Aircraft Systems (UAS) Fact Sheet." In this document it spells out why it is solely the FAA's authority to govern

airspace and why a "'patchwork quilt' of differing restrictions could severely limit the flexibility of FAA in controlling the airspace and flight patterns, and ensuring safety and an efficient air traffic flow."

There simply is not enough room on aeronautical charts to list multiple flight restrictions from a variety of agencies. The purpose of an aeronautical chart is to provide situational awareness and navigation information to a pilot. Using an aeronautical chart as the sole, practical means to communicate regulatory restrictions is inappropriate and would detract from the safe use of the chart for its intended purpose. Furthermore, there is no FAR requirement for a pilot to have an aeronautical chart on board the aircraft raising the question as to how a pilot would be aware of or familiar with NOAA regulations concerning flight operations.

Outreach Opportunity

AOPA is willing to support outreach efforts on the current Advisory Circular (AC) 91-36D, "Visual Flight Rules (VFR) Flight Near Noise Sensitive Areas including Marine Sanctuaries." AOPA has agreed to collaborate with NOAA on pilot outreach and education to "fly friendly" in accordance with the recommendations contained in the FAA's AC 91-36D. The AC requests that pilots voluntarily avoid overflight of noise sensitive areas at less than 2,000 feet above ground level. This guidance is recommended and not regulatory or compulsory. It is AOPA's belief that any mandate or requirement beyond these terms must be enacted by the FAA following the standard rulemaking process.

Tomales Bay Study Area

The Tomales Bay sanctuary area is already designated a noise-sensitive area with pilots requested to maintain a minimum altitude 2,000 feet above the surface of the sanctuary. This charted notification is sufficient for pilots to know they should be following the guidance in AC 91-36D. The provided proposal does not detail any justification for the new low overflight regulation zone. Furthermore, the proposal acknowledges the entire area does not need further regulation so it is unclear what is prompting this action to be so extensive. Lacking specifics, we find it difficult to effectively comment. The area depicted as a low overflight regulation zone should be minimized to the areas that are justifiable. There should not be an increase in the zone unless there is evidence that it is an impacted area.

There are vague statements made that helicopters and seaplanes "occasionally" operate in the area without discussion of how this is disruptive and what problem needs to be corrected. Aircraft should be able to fly in this area when desired. We believe AC 91-36D adequately addresses any concern and that outreach to regular operators in the area will further increase awareness.

The proposal requests feedback on designating seaplane and helicopter landing areas within this area. NOAA does not have the authority, nor the expertise, to determine appropriate landing and takeoff locations for aircraft. The identification and governance of airports should be left to the FAA and the authorities they designate. Should a regulation zone be necessary, NOAA should work with the FAA and stakeholders to designate landing areas as mitigation for the loss of airspace access.

Feedback is requested on whether restrictions should be put in place on a seasonal basis. This cannot be accommodated with the existing charting cycle so depicting a restriction would be confusing unless a note was provided stating when the restriction was in place. This depiction would require new symbology to separate it from the annual restriction. The best solution to seasonal issues is to conduct pilot education and outreach, not new charting. The charted advisory to remain above 2,000 feet AGL is already effective at increasing awareness so no further charting should be required.

Sonoma County Study Areas

AOPA is concerned with how the proposed regulation zone will affect the Sea Ranch Airport (CA51) which is located in close vicinity. The private airport has numerous based aircraft who would be effectively prohibited from flying west of the airport at traffic pattern altitudes. Pilots conducting normal operations to and from this airport fly their traffic patterns as designated by the FAA. This puts the aircraft at altitudes lower than 1,000 feet AGL and to the west of the airport, both of which would no longer be feasible with a new regulation zone. In order to safely operate in and out of the Sea Ranch Airport, pilots need to be able to fly altitudes much lower than 1,000 feet. If this proposal moves forward, AOPA respectfully requests that these FAA established procedures be maintained and language included in any proposed or final rule that would exempt flight operations within 5 NM of the airport for the purposes of taking off or landing at the airport.

The proposal states "because of high cliffs, up-winds, down-winds, fog, limited glide paths in case of engine failure and the presence of birds flying in the area, it may be unsafe for pilots to fly at low altitudes in certain parts of the study area." AOPA strongly opposes this statement for the following reasons: (a) it is not based on any study or facts that could lead to any conclusions on whether the local weather conditions are hazardous to aviation; (b) local weather conditions are not used for justification, mitigation, nor have any bearing on permanent geographic flight restrictions; and (c) none of these considerations, except for an unusually high presence of birds, has any bearing on the proposal. Formulating a conclusion based on these non-substantiated comments that new regulation zones will not impact many pilots, and therefore should not be carefully justified, would be inappropriate and outrageous.

AOPA supports the exemption for Coast Guard helicopter flights if the low-overflight zones would adversely impact their operation should the regulation zone be enacted. AOPA also agrees that the proposed areas "are along the route typically taken by pilots while traveling up and down the coast." Any proposal should take a careful look at the impact on aviation and should be fully justified before moved out of the study phase.

Marin County Coastal Study Areas

This proposal requests feedback on whether charting "areas that are not at high risk of disturbance" would be appropriate. Enacting and charting a regulation zone because of simplicity is inappropriate. Only the areas fully justified should be considered for rulemaking.

Devil's Slide Study Area

The proposed new low overflight regulation zone will have immediate and lasting effects on general aviation, particularly those pilots based at Half Moon Bay Airport (KHAF). This area is frequently used to transit north-south around the San Francisco International Airport (KSFO) Class B airspace. Given the frequent fog and low ceilings in the San Francisco Bay, pilots are often forced to fly at low altitudes – below 1,000 feet AGL – on the western coast in order to comply with FAA regulations and to transit north-south. The new regulation zone may prevent pilots from transiting this area altogether in cases of the weather being at standard Visual Flight Rules minimums.

Many aircraft are not capable of flying within Class B airspace due to a lack of radios so they must remain below the 2,100 foot shelf. Creating this regulation zone will complicate the airspace and force many pilots to fly above 1,000 feet AGL and below 2,100 feet MSL. This limited altitude range will funnel air traffic and increase the risk of a collision. The hazard becomes even more serious as the Class B drops to 1,500 feet MSL just north of the proposed regulation zone. Pilots' compliance with both airspace requirements simultaneously could be distracting when it comes to see-and-avoid tasks and also greatly increase their workload. Any attempt to reduce the available airspace in this area will have a substantive impact on the safety, access, and efficiency of general aviation to transit the area.

Conclusion

The Sanctuary, the Seabird Protection Network, US Fish and Wildlife Service, and others have provided significant pilot education regarding the need to avoid disturbing birds in this area. We would request to assist in further outreach efforts and avoid imposing additional regulations. AOPA does not support the proposed low overflight regulation zones and we believe they would negatively reduce airspace access unnecessarily. The FAA has the sole authority to regulate airspace so any regulation that would govern airspace should come from this agency.

Thank you for reviewing our comments on this important issue. Please feel free to contact me at 202-509-9515 if you have any questions.

Sincerely,

Rune Duke
Director, Airspace and Air Traffic

The Aircraft Owners and Pilots Association (AOPA) is a not-for-profit individual membership organization of General Aviation Pilots and Aircraft Owners. AOPA's mission is to effectively serve the interests of its members and establish, maintain and articulate positions of leadership to promote the economy, safety, utility and popularity of flight in general aviation aircraft. Representing two thirds of all pilots in the United States, AOPA is the largest civil aviation organization the world.

Inverness Association
PO Box 382
Inverness, CA 94937

January 25, 2017

Greater Farallones National Marine Sanctuary Advisory Council
c/o Greater Farallones National Marine Sanctuary
991 Marine Drive, The Presidio
San Francisco, CA 94129

Attn: John Largier, Chair

By email to Jenn Gamurot - NOAA Affiliate, jenn.gamurot@noaa.gov

Tomales Bay - NOAA Regulated Overflight Zones

I am submitting these comments regarding the proposal to extend the existing NOAA Regulated Overflight Zone at the mouth of Tomales Bay to cover all of Tomales Bay. The Sanctuary Advisory Council will be considering this at its February 1 meeting in Pt. Reyes Station as indicated in http://farallones.noaa.gov/manage/sac_meetings.html. A member of our Board of Directors will be in attendance and present the letter in person.

The Inverness Association is an organization formed in 1930 as a community improvement association and is located on the western shore of Tomales Bay, which is in the unincorporated area of Marin County. We conduct design review for development proposals in our area, own beaches and beach access trails, maintain trails throughout the area and have restored The Gables, an histori building which today houses the County Library and Jack Mason History Museum.

All of Tomales Bay is within the boundaries of the Gulf of the Farallones National Marin Sanctuary except for a relatively small portion of the Bay that lies within the Point Reyes National Seashore.

To reiterate what you have heard from other organizations, Tomales Bay is one the most pristine estuaries in the world. It serves as a wintering and breeding area for tens of thousands of birds – some endangered – and for a large colony of harbor seals with several haul-out areas in the Bay. In addition, Tomales Bay is designated as a wetland of international importance under the Convention on Wetlands, known as Ramsar Convention. The newly restored Giacomini Wetlands at the southern end of the Bay is attracting even more birds to the area. Increasingly we are seeing eagles and other raptors fishing in the Bay and nesting in the area.

But, aircraft engaging in low flights over Tomales Bay increasingly are disturbing these populations. In addition to low-flying sightseeing and pleasure flights, there are helicopter landings on the beaches and even sea-planes occasionally landing in the Bay. Drone usage is increasing and poses a particular risk of disturbance to wildlife. These cause flushing and other serious disturbances of these animals.

There is absolutely no reason that these unnecessary flights that disturb wildlife should be permitted to continue. All of the reasons for the Sanctuary's rules restricting flights over Bolinas Lagoon apply to Tomales Bay, but Tomales Bay has much larger populations of seabirds and marine mammals than Bolinas Lagoon.

For these reasons**, the Board of Directors of the Inverness Association** respectfully requests that the Sanctuary Advisory Council recommend to the Sanctuary Superintendent to include all of Tomales Bay as a NOAA Regulated Overflight Zone.

I would be happy to provide further information in support of these views or to invite your representatives to meet with our organization to discuss this. In the meantime, I thank you for your consideration of these comments.

Sincerely yours,

Kathy Hartzell

Kathy Hartzell
President
Inverness Association

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Proposed NOAA Regulated Overflight Zones KHAF Airport

Arash Aryana <aaryana@yahoo.com> Thu, Jan 26, 2017 at 10:32 AM
To: Jenn.Gamurot@noaa.gov

Jenn,

I corrected an omission to my original letter, highlighted in bold below.

Arash

> On Jan 26, 2017, at 10:27 AM, Arash Aryana <aaryana@yahoo.com> wrote:
>
> Hi Jenn,
>
> I'm sending you this note with grave concern for having non aviation folks passing regulations that will affect the safety of flight for my airplane at Half Moon Bay Airport.
>
> The proposed regulations will definitely result in fatalities near KHAF. I for one will not worry about fines or criminal penalties when I am pilot in command and need to ensure that my wife and daughter need to get back on the ground alive. The proposed regulations will adversely affect the decisions some pilots make while weighing the risk of being busted by NOAA or getting home safely. This is a recipe for disaster to the pilots and I'd be in fear if I lived on that coastline.
>
> A disoriented pilot who ends up in the clouds because he/she can't fly at a safe altitude to land at KHAF is a risk to the coastal community...a 2000 lb airplane careening out of the sky into the ocean or into the populated coastline is a nightmare. That's what will happen when you force VFR aircraft to fly into or near clouds.
>
> You may say this is absurd, that this is exaggerated and will never happen. But unless you have lived it yourself, and flown into KHAF yourself as a pilot, you will never understand what I am saying here. KHAF is already a dangerous airport with dicey weather conditions. These proposed regulations are not good for the safe **operation of aircraft at KHAF.**
>
> It is impossible to impart to you the absolutely critical need for a VFR aircraft to have the flexibility do what is right for the safety of the flight on a foggy coastline when your wife and child are in the aircraft.
>
> Pass your regulations and I hope you can sleep at night when the NTSB reports of fatalities start rolling in.
>
> BTW, the folks pushing for this have lied to the public showing video of birds scattering on the coast and saying it's from airplanes when it was actually video of birds scattering when the blasting for the Tom Lantos tunnels took place. They finally came clean and admitted their video wasn't the result of an airplane passing overhead when questioned by pilots at KHAF.
>
> I am a conservationist and love preserving the environment but I am vehemently opposed to the deceptive lobbying of the public by this group pushing for these regulations and wholeheartedly know that it will endanger the flight operations of VFR aircraft at KHAF.
>
> Arash Aryana
> (A pilot, husband, and father to two women that depend on me to ensure they are safe flying into and out of KHAF)

CALIFORNIA PILOTS ASSOCIATION
1414 K St., 3rd Floor, Sacramento, CA 95814

January 26, 2017

VIA OVERNIGHT DELIVERY & EMAIL (jenn.gamurot@noaa.gov)

Jenn Gamurot, Advisory Council Coordinator
NOAA Greater Farallones National Marine Sanctuary (Headquarters)
991 Marine Drive, The Presidio
San Francisco, CA 94129

Re: Review Of Low Overflight Working Group Report On February 1, 2017

Dear Members of the Greater Farallones National Marine Sanctuary Advisory Council:

On behalf of the California Pilots Association ("CalPilots"), I submit this comment letter in response to the report submitted to the Greater Farallones National Marine Sanctuary Advisory Council ("Advisory Council") by the Low Overflights Working Group ("Working Group") being considered at the Advisory Council's February 1, 2017, meeting.

Consideration Of The Working Group Report Is Premature Due To A Failure To Allow For Appropriate Public Comment.

CalPilots believes by only allowing eight (8) days for public comment, the Working Group's report is being considered prematurely. CalPilots requests the Advisory Council table action on this recommendation until its next meeting and re-open public comment.

The Proposed Regulation Of Low Overflight Over Specific Geographic Locations Is An Illegal Regulation Because The FAA Retains Exclusive Jurisdiction To Regulate Airspace.

While CalPilots believes wildlife resources are important and worthy of protection, CalPilots cannot support the changes proposed by this recommendation. To begin with, because of the use of presumptions and separate fines for flying below 2000 feet over specific geographic areas, the 2012 NOAA rulemaking does create an illegal airspace restriction. Subjecting a pilot to legal fines and consequences for operating an aircraft in compliance with the FAA Federal Aviation Regulations ("FARs") is inappropriate.

To the extent NOAA wishes to create legally enforceable flight restrictions, it must do so through the appropriate FAA regulatory procedures. The broad powers granted to the FAA, including the power to regulate airspace, when combined with the freedom of air navigation, render the NOAA regulation illegal.[1]

[1] See *United States v. Causby* (1946) 328 U.S. 256; see also Public Right of Transit Public Law: 85-726-Aug 23-1958.

By way of example, were the NOAA to levy a fine for overflight at 800 feet at UVIDE intersection (Half Moon Bay, RNAV (GPS) Y RWY 30 missed approach point) or at even lower levels just prior to landing, would be illegal. However, in our system, illegal regulations remain in effect until challenged in a court of law; thus, the 2012 illegal rulemaking remains. Unfortunately, when individuals perceive a law as improper or contrary to superior authority, the result is disregard for the law, not improved compliance. As a result, the proposed change would fail to achieve its goal of protecting wildlife. Further, a choice not to prosecute does not protect an illegal law. The injury to the aircraft operator exists in that NOAA retains the power to do so. That injury provides the aircraft operator standing to challenge improper regulations.

The appearance of illegality to pilots is especially high because the proposal conflicts with controlled airspace as well as conflicts with a pilot's ability to takeoff or land at coastal airfields like Half Moon Bay, Sea Ranch, or Ocean Ridge Airports. That exception for takeoff and landing is critical to emergency medical helicopter service operating out of Redwood Coast Medical Heliport, also prohibited by the proposed action. Additionally, although a left-hand traffic pattern is standard, which would result in coastal overflight for at least one runway in each of the listed airports, the FAA has specifically determined the safe traffic pattern for both runway 12 and 30 at Half Moon Bay airport requires coastal overflight. The rule, as proposed, would cause any pilot entering the pattern, flying the pattern, or departing the pattern, to necessarily violate the proposed rule. This cannot be supported as not in conflict with the FARs or the Airmen Information Manual.

While CalPilots supports educational outreach and recommendations that such overflight should occur at or above 1000 feet, we cannot support any rulemaking that would control the airspace in question in a manner contrary to the FARs 500 feet limit nor one that would not include exceptions for takeoff and landing.

The Proposed Regulation Of Low Overflight Over Specific Geographic Locations Is Unnecessary Because NOAA's 2012 Rulemaking Successfully Addressed The Low Overflight Issue.

CalPilots notes this rulemaking appears unnecessary based on the materials provided to the Working Group. Specifically, the Working Group relied upon the Common Murre Project's 2015 Annual Report ("2015 Annual Report"). It is clear that bird disturbances dramatically reduced from 2005; and reduced further subsequent to the 2012 rulemaking's creation of FAA VFR chart notations.[2] Of note, during 353 observation days, encompassing 992 hours of monitoring, only 14 flushing events due to aircraft overflight occurred.[3] Further, it is unclear what altitude the offending aircraft were flying at.[4] However, it appears from the 2015 Annual Report that the current advisory areas are performing well and there is no need for further attempts to regulate

[2] 2015 Annual Report, Figures 9 & 10, pp. 63-64
[3] *Id.,* Tables 1-10, pp. 43-50
[4] 2015 Annual Report

aircraft overflight. To the extent NOAA wishes to amend its language or chart identification to better identify recommended overflight areas, CalPilots supports those intentions.

With respect to marine mammals, the materials do not appear to support a crisis caused by overflight. By way of example, harbor seals were monitored at Point Reyes in 2006.[5] At that time, only 7% of disturbances, defined as alertness or flushing, occurred due to aircraft. The remaining disturbances were caused by humans (21%, presumably on foot), motor boats (11%), other boats (13%), and 48% due to non-human issues. (Aircraft Disturbance Literature Review DRAFT at p.11 ("Pinnipeds").) CalPilots notes this is a draft document created by sanctuary staff and has not been published nor subject to peer review.

The Proposed Regulation Of Low Overflight Over Specific Geographic Locations Amounts To A Ban On Drone Operation Within Those Areas.

While drones may be of particular concern, those issues are relatively unique to unmanned aerial systems (UAS) and generally do not apply to the issues of manned flight. However, as the FAA continues to expand its regulation of UAS, inevitable conflicts may arise with regard to airspace. Of note, current UAS regulation prohibits flight above 400 feet. Prohibitions against flight below 1000 feet amount to a restricted flight area for Remote Pilots; again, NOAA would be regulating airspace.

No one believes harassing wildlife is an appropriate use of drones; however, drones have been used very successfully for wildlife monitoring and population counts. Before NOAA considers a blanket rule for motorized aircraft which would include drones, it should consider the valuable resource drones can provide to those seeking to protect wildlife. Additionally, as drones tend to be much smaller than manned aircraft, it is unclear that distance requirements designed for manned aircraft are appropriate when applied against UAS aircraft, given their significantly smaller size.

Comments Regarding Specific Language Contained Within The Working Group's Report.

On page 1, the non-aviators on the committee allege the FAA does not find this conflicts with airspace by citing to a footnoted reference in the Federal Register. The footnote provides little to no guidance about what the FAA was responding to, except that it was related to the 2012 proposal. The 2012 rulemaking's reference to FAA AC 91-36D, which ***encourages*** VFR pilots to fly at a higher altitude, shows generally the FAA's perception the NOAA rulemaking requested pilots to fly above an altitude, not prohibiting flight at an altitude. Regardless of its content, the FAA 2012 letter does not, and cannot, address the issues raised by the current proposal; thus, reliance upon the letter is inappropriate and does not conform to the evidence standard for rulemaking.

[5] Aircraft Disturbance Literature Review DRAFT at p.11 ("Pinnipeds")

CALIFORNIA PILOTS ASSOCIATION
1414 K St., 3rd Floor, Sacramento, CA 95814

On page 11 of the recommendation, the report alleges the 2000 feet requested altitude is frequently ignored, yet as noted, only 14 aircraft flushing events occurred over 353 days of monitoring.[6] There seems to be no support for this allegation within the materials provided to the Working Group. How is frequently determined? What records demonstrate actual aircraft height? How many of those events are related to a takeoff or landing? How many are related to low ceiling days? How many actually occurred when marine mammals and birds were nesting? The materials do not include the answers to any of these questions. In the cases where a reference was made to height or distance, it appears these determinations were based on eyeballing. It is my experience as an aviator that non-pilots on the ground consistently suggest aircraft are much lower than their actual altitude (e.g. Mosquito abatement flights that neighbors complained were at 200 feet were actually at 400 feet per GPS readout provided by the County abatement as required for proper spray patterns.) Additionally, the materials noted all "disturbances", which included behavior, such as alerting, additional calling, or head movement. However, the materials themselves could not come to a conclusion regarding whether this was harmful or not.

On page 20 of the recommendation, the recommendation notes the websites utilize the words "restrict" and "prohibit". The recommendation notes this usage is "inaccurate, confusing and off-putting to pilots…" CalPilots appreciates the acknowledgement of the pilots' concerns over this language but notes NOAA's 2012 rulemaking determined the word restrict was not to be used, yet no correction apparently has occurred in over four (4) years. CalPilots supports NOAA in the correction of improper language on its websites.

Conclusion

For the reasons above, NOAA should cease its efforts to regulate airspace in conflict with the FAA. Actions by the NOAA to train pilots to fly at higher altitudes are beneficial and helpful to our environment, but the actions proposed here would amount to a patchwork of regulations where clear authority lies within the FAA. If NOAA truly believes prohibiting flights below 1000 feet is in the best interests of society, it should advise the FAA and seek FAA action.

Regards,

, General Counsel for
Corl Leach, President
California Pilots Association

Via Email
cc: Carol Ford, CalPilots, V.P. Region 3, (carol.ford@calpilots.org)
Andy Wilson, CalPilots Director-at-Large and Greater Farallones Overflight Committee Member (andy.wilson@calpilots.org)

[6] 2015 Annual Report, Tables 1-10, pp. 43-50

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Proposed NOAA Overflight Zones in the Farallones Marine Sanctuary

Henry Lowman <henrylowman@comcast.net> Thu, Jan 26, 2017 at 11:29 AM
To: Jenn.Gamurot@noaa.gov
Cc: henrylowman@comcast.net

To whom it may concern:

I write to express my strong objection to proposals for increased flight restrictions voiced by non-pilot members of the Greater Farallones National Marine Sanctuary Advisory Council Working Group on NOAA Regulated Overflight Zones in their report of January 19, 2017.

While well-intended, the proposed establishment of *NOAA regulated overflight zones (NROZs)* where pilots flying below 1,000 feet are subject to citation has the potential to threaten general aviation safety and indeed the safety of the general public in Northern California. As a private pilot, I must consider many aspects of weather, route, traffic, and temporary flight restrictions (TFRs) in planning a flight, and I know that with addition constraints such as these, pilots will tend to fly further offshore or over populated areas, where such routes are otherwise unnecessary, leading to potentially fatal accidents for those in the air and/or on the ground.

Moreover, it should not be the role of the National Oceanic and Atmospheric Administration (*NOAA— the federal goverment's weather bureau*) to establish flight rules and restrictions for the aviation community— that role is properly addressed by the Federal Aviation Administration (FAA), which can reasonablly take into account the safety and needs of aviation across the United States.

As a long-time resident of Northern California, I value our scenic coastline and wildlife; however, the current proposal is very troubling to me. In lieu of further regulation, I suggest that marine sanctuaries and other areas proptected for wildlife pursue a plan of *outreach and education* to the aviation community, as a more thoughtful, efficient, and cost-effect means of protecting our resources.

Respectfully,
Henry B. Lowman, PhD

January 25, 2017

To the Greater Farallones Sanctuary Advisory Council:

I am disturbed after reading the recommendations of the Greater Farallones National Marine Sanctuary Advisory Council Working Group. The document seems to be establishing a new entity called the NROZ (NOAA Regulated Overflight Zone), separate from the current "Special Wildlife Protection Zones," and separate from any other established protection zones, to deal specifically and exclusively with aircraft overflight. The general recommendations within the document seem to establish what the NROZs will look like: horizontal and vertical dimensions, how to display them on FAA charts, and who can enter them or, stated in other words, who will be subject to regulatory enforcement. The document recommends the establishment of new zones, the extension of existing zones within the GFNMS, and a suggestion that other agencies, (e.g. National Park Service, Point Reyes National Seashore, etc.), might adopt the NROZs to solve jurisdictional problems, like extending the NROZs into areas not controlled by the GFNMS. Suggestions for potential future expansion to offshore "hot spots" along the continental shelf and other vast areas of open water are implied if one references some of the associated web links in the document. In addition, the document seems to be recommending a model for the creation and establishment of new zones, namely the "working group." As a pilot that was interviewed to be a member of the current Working Group, this is not what I understood the group was about, and am seriously distressed by the potential for unlimited expansion of NROZs, with the resultant loss of airspace for a zealous adherence to the "precautionary principle" and the politically expedient way in which this has come about, namely, the working group.

I do not make the above statement lightly. Numerous comments within the Working Group document reflect that there is still a serious lack of understanding of the aviator's world. (For example, the suggestion that a camera be placed on the cliff by Bird Rock to catch violators.) The proposed boundaries of NROZs seem to be designed for ease of describing them and charting them but certainly not for the ease of the pilot who must identify them and fly around them. This lack of understanding is dangerous, and since NROZs are being designed specifically to regulate aircraft and nothing else, I feel it is unconscionable that you can even think of establishing new NORZs and initiating criminal action against pilots without first having worked out these issues and other jurisdictional problems brought up by the current Working Group.

I am also alarmed that you feel it completely unnecessary to consult with the FAA since you have now placed yourselves in the business of regulating airspace with the creation of NROZs. (One exception. There is a suggestion within the document that you talk to the FAA but only to get them to redesign one of their long established restricted airspace zones to meet your needs.) I am sorry but a vague statement in a document from 2012 implying you have the FAA's blessing does not seem an adequate response to your responsibility to consult with the agency authorized to manage the nation's airspace

system especially considering the hastily thought-out and rapidly evolving nature of the NROZs. It feels like our concerns and criticisms and been largely discounted and ignored.

After reading 18 years of annual reports of the Restoration and Monitoring of Common Murre Colonies in Central California, I am wondering why NOAA feels that overfly restriction is necessary. The birds on Bird Rock, for example, are doing better than ever. There are more now than before the oil spill that decimated the colony in 1986. The birds are thriving in spite of the 2009 starvation event, which affected a larger area than Devil's Slide Rock, and tunnel construction, which started in 2005 and finished in 2013 and included boring, blasting, rock hauling, and road building. The goal has shifted from restoration of the colony, which was a brilliant success and easy to measure, to human disturbance, a more nuanced issue less easily quantifiably. (I was unable to determine how the methods of observation in the studies changed with the new goal. I personally observed 2 birds within 5 minutes abort their landings on the rock on a windy day trying to maneuver around poles set up on the rock to make counting the birds easier yet there is no mention of this human disturbance in the report or its effect on the colony.) Is aircraft overflight really a significant disturbance, let alone a serious threat to sea bird survival? The Murre Colony reports do not support that conclusion. I have not seen any data for other proposed NROZs but it makes me skeptical. The problem of aircraft overflight is not as obscure an issue as global warming and yet with little justification you have proposed NROZs over thriving colonies and defined their boundaries in a particularly arbitrary way. Does following the "precautionary principle" mean you don't have to do the science even if you could? Does adherence to the "precautionary principle" mean that if one bird or seal ever looks up at an airplane or bobs its head you are justified in restricting the entire coastline?

It makes me wonder about the motivation behind overflight regulation. It seems too expedient, providing a sense of accomplishment and yet accomplishing nothing significant while the potential for abuse is tremendous. It feels like small airports are under siege at the moment. Ask any airport manager how many noise complaints are made by disgruntled people that knew the airport was there when they moved in and are now fighting to have it closed. Their tactics are often disturbing and I am afraid that NROZs can give unhappy locals the perfect way to shutdown local air traffic they find annoying, in addition to burdening pilots with frivolous litigation under "rebuttable presumption."

On the first page of the Working Group's document George Clyde states: "Following the precautionary principle, they [non-pilot members of the Working Group] believe that the NROZs are an important tool – both in protecting the wildlife through regulatory enforcement and as an effective way to motivate and educate pilots about the locations of vulnerable wildlife and the minimum elevations necessary to protect them from potential disturbance." This statement seems to clearly state the Working Group's bias. It seems that you are only interested in enforcement (with rebuttable presumption) and banning aircraft from any area you control, and that the only outreach and education you are interested in is providing us information on the location of NROZs and the minimum elevations and horizontal dimensions you have somehow deemed necessary. It seems so

easy and expeditious requiring no science and no protection for pilots under the law (guilty until proven innocent), or protection afforded us by the FAA.

Philosophically, I don't think the goal is to keep humans out. I think we must cohabit and interact if we are going to survive. That requires some give and take on both sides. But it is harder. You have to think differently. You have to teach people to be respectful, and what that looks like. San Carlos airport reported 99% compliance with their voluntary noise abatement program with education and outreach. Dream Machines reported no bird disturbances after Seabird Protection increased its outreach program at the event. Is regulatory enforcement an effective way to motivate and educate pilots or anyone? Is it really addressing the problem or is it just expedient, requiring little effort?

Kristin Williams Ph.D.

Retired Military Pilot
Retired Airline Pilot
Aircraft Owner/Operator

.

January 25, 2017

To the Greater Farallones Sanctuary Advisory Council:

During the time the working group was meeting I had, at various times, conversations with the 3 pilots involved. Over time, I observed their initial optimism evolve into acceptance that the working group had virtually no knowledge of, or interest in learning about, the complexity of the system they are trying to regulate. In a conversation with Sage Tezak I mentioned that, while natural events have an enormous impact on any given bird population, aviation events have virtually no such impact. She concurred, but said that since regulatory agencies have no control over natural events, they could only attempt to control human interactions, seemingly without regard for the need or effectiveness of such actions. For a group composed largely of people in the scientific community, it appears that science has very little to do with the group's actions or agenda. In reading NOAA's reports one sees little or no evidence that the aviation community has had any quantifiable effect on bird populations or behavior. The working group seems determined to create solutions to problems that are not documented in NOAA's own studies.

There is also a very large question that has yet to be resolved: does NOAA, or any other agency other than the FAA, have the authority to regulate the airspace. The argument that NOAA is regulating disturbance rather than airspace is invalid since the result is a restriction on activity in that airspace. My understanding is that the only conviction of someone in the aviation community was a result of a violation of the Airborne Hunting Act, which has no connection to NOAA whatsoever. I look forward to having the issue of NOAA's authority tested in court when you finally prosecute someone under your own regulations.

I believe that the aviation community in general is very much interested in the well being of the wildlife along our coast. I know that over the years I have modified my activities to avoid creating conflict with the coastal wildlife. My behavior has not changed because of regulation, but because of increased awareness that I could have an impact on wildlife populations. As a result of observing the Working Group's activities over the last year, I will, while maintaining that awareness, actively oppose your agenda. It's really unfortunate that your activities to enlist the aviation community's support in protecting the wildlife have actually had a negative effect.

David Williams

Retired Airline Pilot
Aircraft Owner/Operator

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Overflight zones along the San Mateo County Coast

LaVey, Barbara <barbara.lavey@cbnorcal.com> Thu, Jan 26, 2017 at 12:47 PM
To: Jenn.Gamurot@noaa.gov

Thank you for opportunity to weigh in on my thoughts about the fly-over zones – I am a resident of Montara.

When the pilots are staying up at regulation heights, there are no annoying, glaring sounds from the planes.

When a pilot is in a touch and go instruction and not hitting those regulated heights, it is painfully obvious and very annoying – please make it clear they should stay up as high as regulations dictate.

Barbara LaVey,

BRE# 01361161

Coldwell Banker

248 Main Street, Suite 200

Half Moon Bay, CA 94019

650-483-4449 direct/cell/text

650-726-8676 fax

"I have not verified any of the information contained in those documents that were prepared by third people. Please encourage your Sellers/Buyers to satisfy themselves as to the issues discussed in these documents."

Think Green. Please only print this email when necessary.

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Jet aircraft flights over coastal communities

Sue Hawley <kellruss@earthlink.net> Thu, Jan 26, 2017 at 1:59 PM
Reply-To: Sue Hawley <kellruss@earthlink.net>
To: Jenn.Gamurot@noaa.gov

Dear Jenn Gamurot

I live in Montara a couple blocks from the ocean. The new flight patterns have deeply effected my quality of life and created concerns for the nearby Marine Reserve.

We purchased our home and moved to this small community particularly because of the peacefulness. At night we used to love to go outside and listen to the natural sounds of the waves, owls, frogs and coyotes. The dark skies allow us to even see the Milky Way. Every night, since the fight patterns have changed, the peacefulness of this community has been shattered.

I feel tired almost constantly as the roar of the jets, climbing directly overhead wakes me once or twice a night usually around 1:30 am and between 3:30 and 4:30 am. Some days the overflights seem constant. No sooner does one jet move off into the distance and the noise begin to recede than the next rattle and roar move in.

During the holidays the noise never let up. One day, around Thanksgiving, after a very noisy night, I tried to nap. The roar was constant. Not only were these climbing jet aircraft going directly over my formerly peaceful home (laying in bed I could look up, out the window and see their undersides) but also just offshore so there was double the noise. By the end of that day I was in tears, exhausted, unable to escape this intrusiveness into my own home.

When we purchased our home we were aware of the local small planes that occasionally go over. This is a totally different noise. The jets are low, I have even looked at flight radar to find that they are below 10,000 feet. The noise of the climbing jets rattles our home and is a very deep rumbling noise. It is not fair or livable to suddenly have to have this horribly intrusive racket invade our home and community.

What can be done to get our lives back and take the patterns back offshore?

Thanks for your time, Sue Hawley

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

NROZ Devil's Slide

Gus Peterson <peterson.gus@gmail.com> Thu, Jan 26, 2017 at 2:00 PM
To: Jenn.Gamurot@noaa.gov

Hi Jenn -

I live near the Half Moon Bay airport, and would love to see some protection for the sea birds and the coastal peace and quiet here. Can you please push for an extension of the NROZ and other GRs, level 5 or 6 to include the Fitzgerald Marine Reserve? That would be my only request at this time. Thanks.

Thomas "Gus" Peterson
Moss Beach, CA

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Public comment re: Overflight zone (Montara, CA)

Deborah Mortensen <d2del@sbcglobal.net> Thu, Jan 26, 2017 at 2:49 PM
Reply-To: Deborah Mortensen <d2del@sbcglobal.net>
To: "Jenn.Gamurot@noaa.gov" <Jenn.Gamurot@noaa.gov>

Dear Ms. Gamurot,

I am writing to ask that your team reconsider what appear to be new flight paths the cross directly over my home in Montara CA. This is a semi-rural community on the San Mateo County coast and there is nothing (city noise, etc.) that absorbs the noise of planes crossing overhead. As a result, I'm awaken every morning (usually between 5 and 6 am) to the sound of jet engines. The drone is fairly constant throughout the day and stops around midnight (sometimes earlier, sometimes later depending I'm sure on air traffic requirements). The problem is that I can tell you by the minute when it starts and when it ends. We live in a very quiet area and I can hear this noise even with windows closed. Not only does this affect my enjoyment of peace and quiet (much of why I live there), it's impacting my sleep.

I'm asking that you reconsider these flight paths and perhaps move them over more populated areas that may be more able to absorb the noise these planes make. It would be much appreciated.

If you have any questions, don't hesitate to contact me directly (650 580-3710)

best regards,
Deborah Mortensen
861 Edison Street
Montara, CA

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

NOAA is Seeking Public Comments on Proposed Regulated Overflight Zones - Comments

Colletti Joel <joelandsusan@sbcglobal.net> Thu, Jan 26, 2017 at 2:48 PM
To: Jenn.Gamurot@noaa.gov
Cc: Christine Susan <catmother8@sbcglobal.net>

Dear NOAA,

I understand "NOAA is Seeking Public Comments on Proposed Regulated Overflight Zones," so I'd like to make a couple of comments.

Thank you for your interest and concern. We appreciate the forum you've provided to address some of our observations and concerns as well.

First: Single / double prop / fixed wing planes and small jets - flying to Half Moon Bay, CA. and San Carlos, CA. airports.

Pilots regularly fly below the 1000' flight deck, as they are required to maintain. Furthermore they repeatedly circle around in a non vectoring path, but claim they are coming in for a landing at the HMB airport several miles away for our coastal location. Moreover, the pilots are typically under 500' or much less.

I think this is dangerous, as the HMB airport has had their share of crashes - one in November, 2016 which result in a death after the pilot and his passenger crashed into a house. San Mateo County: Plane crashes near Half Moon Bay Airport

Seccondly: Increased Frequency of Low Flying Jets Disposing of Fuel.

I have experience more low flying jets over our location than in the near 40 years as a resident on the San Mateo, Ca coastside. Furthermore, I see a larger number of jets disposing fuel over the newly aquired GGNRA / Natl Recreational Area at the edge of our community, as the aircrafts regularly skirt the boundaries of Rancho Corral de Tierra - a GGNRA open space preserve; hugging the San Mateo coastline.

Coordinates: 36.5700° N, 121.7324° W

I understand, for various reasons - weather - etcetera, at SFO might, on occasion, need to redirect traffic over the coast, but the airliners make a bee-line making their path over our home and community. These aircraft can be noisy and polluting; and at times, our local airport makes for a ripe environment to collide with one of the many small craft pilots that skirt rules and regs. regularly.

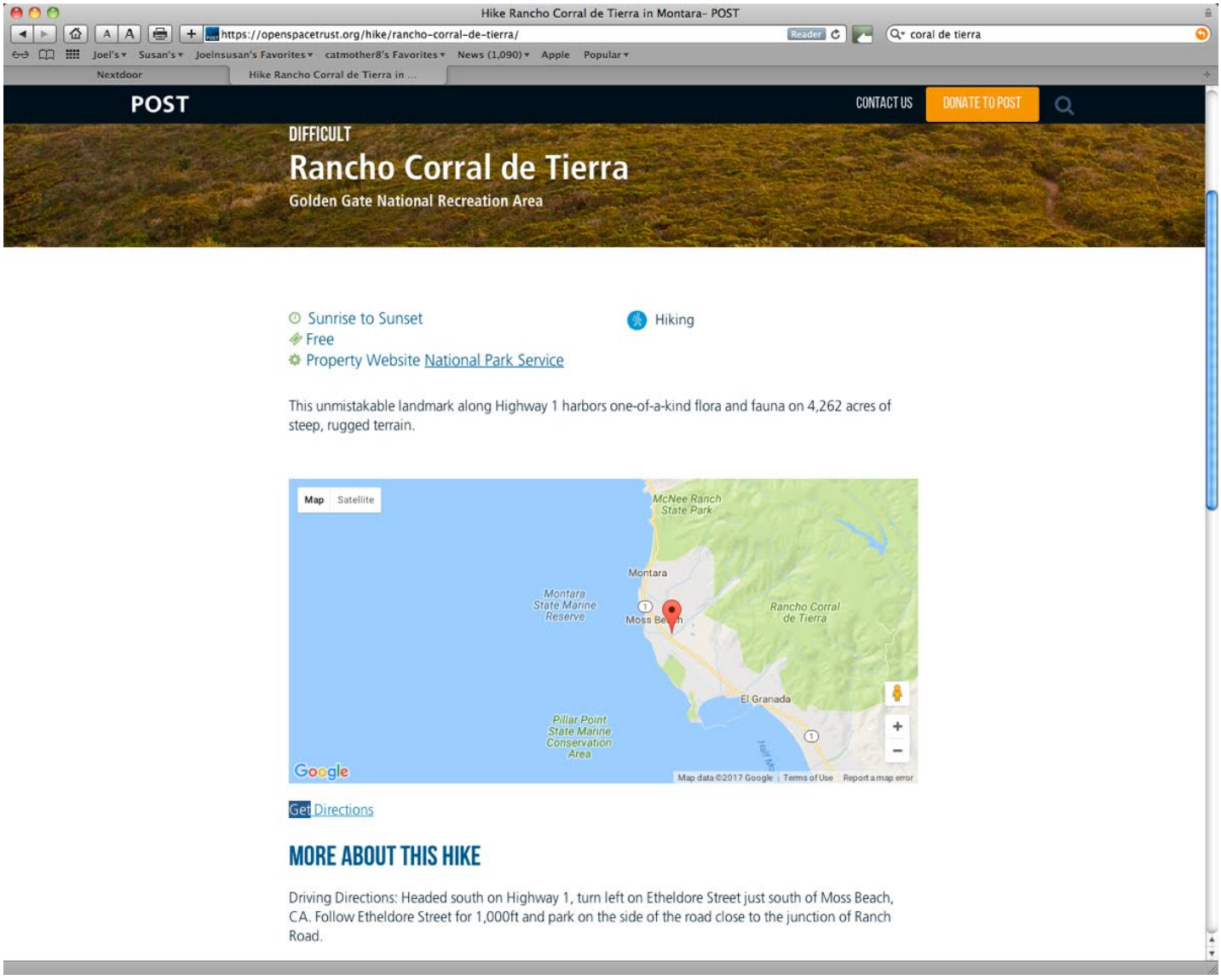
I love aircrafts. I fly regularly and enjoy living near an air force base that is home to the Blue Angels. We also experience military aircraft from the Alameda air force base, as well as the Coast Guard's helicopters that offer help, search and rescue; and Homeland Security; they're great.

I am not anti plane or jet. I just want to ensure the safety and sanity to our rural coastal town and its protected coastal marine preserves, Monterey Marine Sanctuary, as well as the Fitzgerald Marine Preserves that butts up along side the HMB Airport and SFO waters.

Thank you.

Sincerely,
Joel Colletti for Susan Christine
303 7th Street Montara, Ca 94037
650-728-1441

Coordinates: 37.5422° N, 122.5161° W



Letter to NOAA -San Mateo Coast Airport.tiff
4508K

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Overflight on the coast

Lisa Forward <lforward@apr.com> Thu, Jan 26, 2017 at 2:57 PM
To: "Jenn.Gamurot@noaa.gov" <Jenn.Gamurot@noaa.gov>

Hi- my name is Lisa and I live in El Granada. I understand that you are taking public comments about the increased flight patterns over the coast. I'd like to chime in and say that the flights have been excessive, loud, and are not at all conducive to a peaceful lifestyle. The flights begin around 6am and go until close to midnight. They wake us up often and interrupt work from home on a constant basis. They go over about every 5-15 minutes so it's continuous and extremely loud. Before Next Gen we had the usual amount of flights that are common in any area. Now, it's as if we live right next to the airport. Additionally we are surrounded by NPS land and state parks. I am deeply concerned that the natural habitat of animals and humans who enjoy those areas is at risk. There has to be a way to take advantage of the benefits of Next Gen while not sacrificing the lifestyles of the people and animals nearby. The simple step of moving these flight paths over the ocean more is one fix. Please help. This has gotten entirely out of hand and is unacceptable. A computer that designed this NextFen model doesn't have to live with the consequences. We need humans who live in these areas to have a say.
Thank you for your consideration,
Lisa

Sent from my iPhone - please excuse typos and brevity.
Lisa Forward
Cell: 650-281-4745

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Regulated Overflight Zones on San Mateo, CA Coastside

Ron Welf <ronaldwelf@gmail.com> Thu, Jan 26, 2017 at 3:00 PM
To: Jenn.Gamurot@noaa.gov

Please, please do something to help return our previously peaceful community to its former quiet self! As expeditiously as possible.

The re-routing of commercial airline flights from SFO has brought unprecedented noise levels to the entire central coastal area. It starts before 6 AM, waking my family and me 2 hours before our normal time to arise in the morning. The new PORTE navigational point is now very near the Pillar Point Harbor in Princeton, CA. This locations routes aircraft over much of the central coastside. The noise is oppressive and distracting.

Please work to have this location moved further out over the ocean so the increased noise is not continued. Please note that one of the points from the SFO Roundtable was to avoid simply moving a noise issue from one community to another.

Ms. Gamurot,

I am an aircraft owner and career professional pilot who flies out of Half Moon Bay airport. Having been born, raised, and educated on the coast. I have a deep appreciation for the marine life that inhabits our area. Like most local pilots, my earliest fascination with flying came from observing the local seabirds flying and diving along the coastline as the bus took me to school along highway one.

I just recently became aware of the Greater Farallones National Marine Sanctuary Advisory Council Working Group. After reading their recommendations to the NOAA Sanctuary Advisory Council document, I have some concerns:

It appears from the document, that one of the primary goals of the group's recommendation isn't necessarily to protect wildlife, but to establish further flying restrictions for existing FAA controlled and regulated national airspace in a manner reflective of an inter-agency eminent domain dispute.

I feel that the recommendations to expand both the existing Monterey Bay and Greater Farallones National Marine Sanctuaries' NOAA restricted overflight zones in addition to the crea of further restricted zones is completely unnecessary. New restrictions will confuse pilots and degrade the safety of flight especially during the constantly changing weather conditions along the coast. The added punitive aspects associated with the rebuttable presumption of enforcement is in stark contrast to aviation safety with little to gain for the wildlife deserving of protection.

Before ruling on this issue, please consider reading the annual reports to the Lukenbach Trustee Council on the restoration and monitoring of common murre colonies in central California (Allison R. Fuller et al). The obvious conclusion drawn is that the existing regulations for the airspace in question established by the FAA of no flight below 500 feet above ground level are completely adequate.

It would be a shame to see the aviation community suffer further regulation, oversight, and possible punitive actions for no logical reason. Thank you for your time.

Sincerely,

Robert J Cockrell
(267) 975-5570
bobcockrell@gmail.com

Ms. Gamurot

It's with dismay I read the proposed recommendations of the Farallones Working Group.
As a pilot I love sea birds. Most pilots do.

It's unfortunate the NOAA is gratuitously picking a fight with pilots when the goal should be the health and survival of the bird population.

The proposed regulations are not supported by data. As a result time and effort will be spent with unnecessary and senseless attacks on General Aviation with the birds being the ultimate losers.

These facts are incontrovertible, Thousands of birds have been killed by oil spills, pesticides and natural disasters, but there is absolutely no credible scientific data to support general aviation as being a threat. The FAA already has rules in effect regulating air space and no fly areas based on rational and political criteria. (political being presidential no fly zones and the like)

I urge you to cease and desist any efforts to punish pilots without reason. I would wholeheartedly support a pilot outreach and education program to be used in the event a credible general aviation threat does materialize. In the meantime let the FAA do its job and let the NOAA do its job.

In closing, what's our goal? In my judgement it should be to protect seabirds, not start a fight with pilots. Outreach and education work far better than merit-less attacks. Don't try to impose an institutional solution to a perceived behavioral problem.

Sincerely

JB

JB Cockrell
Professional Pilot
Aircraft owner
jbcockrell@gmail.com

Department of Public Works

SAN MATEO COUNTY AIRPORTS

620 AIRPORT DRIVE – SUITE 10 • SAN CARLOS • CALIFORNIA 94070-2714 • PHONE (650) 573-3700 • FAX (650) 593-3762

January 26, 2017

Greater Farallones Sanctuary Advisory Council:

Thank you for requesting comments regarding the Greater Farallones Sanctuary Advisory Council Overflight Working Group's Recommendations on NOAA Regulated Overflight Zones. We appreciate the difficult task that the Working Group took on and appreciate that NOAA included local pilots in the process. The County of San Mateo is the owner and operator of the Half Moon Bay Airport. As such, we are aware of our responsibility to help protect the local environment, including marine mammals and seabirds, and our partnership with the Seabird Protection Network has been highly effective in creating an educated Half Moon Bay Airport pilot community that is committed to compliance with flying "seabird safe" along the coast.

Since working with the Seabird Protection Network the Half Moon Bay Airport community has become educated about seabird colonies and breeding areas along the coast. Devil's Slide Rock is discussed regularly at Half Moon Bay Airport Pilot Association meetings so that new members can be made aware of its location and seabird sensitivity. An annual event at the Half Moon Bay Airport – Pacific Coast Dream Machines – previously caused a few seabird disturbances per year, but since the Seabird Protection Network began attending the event and conducting outreach and education at the event's "Pilot Briefing" there have been zero seabird disturbances. Flight schools at the San Carlos Airport (our other County owned and operated Airport) regularly include education of the overflight regulation zones in their monthly FAA Safety Seminars. And, over the last year, transient pilots have begun routinely visiting the Airport Office to enquire about the Seabird Protection Network posters hanging in the Airport Lobbies. In other words, pilot outreach and education is working!

The County of San Mateo has a highly effective history with voluntary compliance and the local pilot community. In 1998, after several years of highly contentious noise issues involving the neighborhoods surrounding the San Carlos and Half Moon Bay Airports, the County Board of Supervisors created a Noise Working Group that included the Federal Aviation Administration (FAA), pilot community, local neighborhoods and elected officials. The end result of the Noise Working Group was the development of a Voluntary Noise Abatement Program that includes reduced flight training hours on evenings and weekend mornings and specific departure procedures that reduce the noise impact for neighbors living near the airports. With outreach and education, the pilot and business community understood and agreed that being a good neighbor was essential for the long term sustainability of our airports. Airport

Staff physically monitors compliance with our Voluntary Noise Abatement Procedures for one-hour each day at both the Half Moon Bay and San Carlos Airport. The average compliance rate with our Voluntary Noise Abatement Procedures for the fiscal years of 2011-2016 was 99 percent (please see attached). And there are no monetary fines or other penalties associated with our program – only outreach and education (emails, brochures, social media, pilot meetings, FAAST seminars).

We have found our Airport Pilots Associations, Business Association, Airport Tenants and Users to be highly committed to our Voluntary Noise Abatement Procedures. Rather than implementing additional Regulated Overflight Zones, I strongly recommend utilizing a voluntary compliance program that includes an extensive pilot outreach and education component. I believe that you will find the pilot community to be your strongest allies if you choose this route rather than one involving additional Regulated Overflight Zones.

Thank you for your consideration of these comments. If you have any questions or would like to contact me for additional information, I can be reached at gkelly@smcgov.org or 650.573.3700.

Kind Regards,

Gretchen Kelly
Airports Division Manager
County of San Mateo

Enclosed: County of San Mateo Airports Performance Program Outcome Statement

COUNTY OF SAN MATEO
SMC PERFORMANCE

Program Outcome Statement

Ensure the safe operation and maintenance of County-operated Airports

Program Services

-Provide tenant space and services to support more than 500 aircraft, 25 aviation related businesses, and a variety of emergency service and response functions including Air-Ambulance and Medivac flights

-Manage and maintain over 500 acres of airport facilities, infrastructure, and equipment

-Perform design and environmental studies for future federally funded safety, security and infrastructure improvements at San Carlos and Half Moon Bay Airports.

Overview

The San Mateo County Airports strive to engage and educate the local community about the important benefits of the Airports. The Program operates and maintains the San Carlos and Half Moon Bay Airports in compliance with Federal Aviation Regulations, State requirements, and County Airport Noise Abatement Procedures.

FY 2016-17 Mid-Year Story Behind Performance

San Carlos Airport - Annual Aircraft Operations

The Program is projected to meet its FY 2016-17 target of 110,000 for the number of aircraft operations (takeoffs & landings) at the San Carlos Airport (Airport). The number of operations totaled 121,168 in FY 2015-16. The total number of operations is trending 8.4% lower than the same period last year. This mirrors the downward trend also seen in the aviation industry of fewer aircraft and less pilots being certified. Even with the decrease in operations, the Airport is projected to meet its target of 110,000 operations per year.

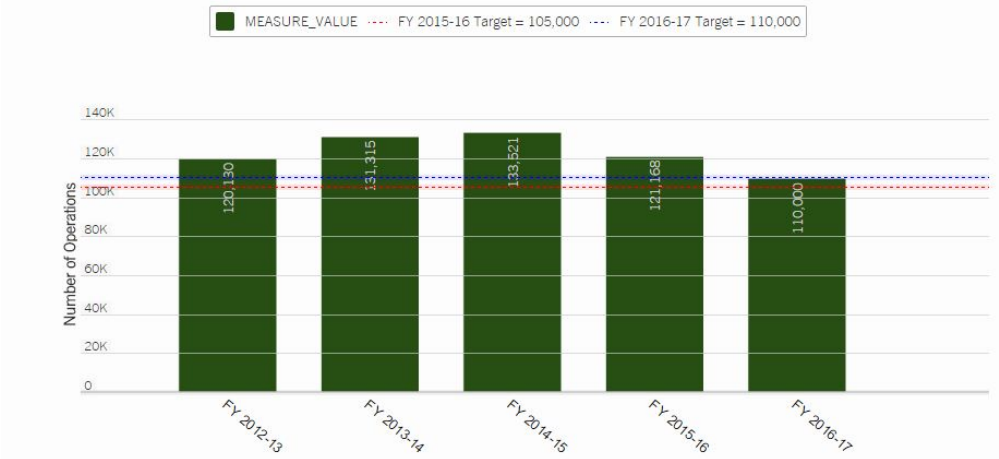
Percent of Occupancy

The Program is projected to meet its FY 2016-17 target of 90% for the percentage of rented hangars and T-shades, with a projected year-end occupancy rate of 94%. The Program is also projected to meet its target of 80% for the percentage of rented office space and concession areas, with a projected occupancy rate of 92%. Both hangars and T-shades have waiting lists of three years and one year, respectively. In addition, the Program experienced three vacancies in office rental space and a vacant hangar at the airport, leaving a building empty for renovation/replacement. Demand continues to remain strong for aircraft storage at both the San Carlos and Half Moon Bay Airports.

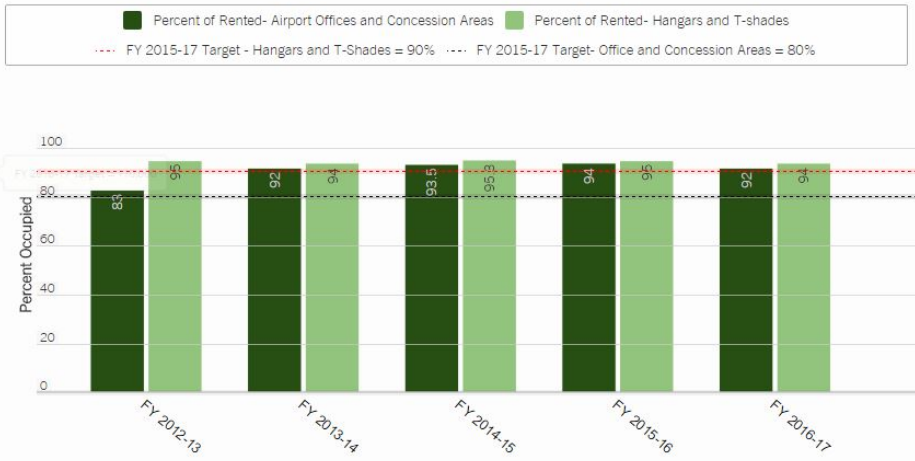
Percent of Aircraft Observed in Compliance with Noise Abatement Procedures

The Program is projected to meet its FY 2016-17 target of 99% of aircraft observed operating in compliance with airport noise abatement procedures and Tower instruction. The Program observed 3,213 aircraft operations throughout FY 2015-16 to determine compliance and is anticipated to observe a similar number of operations in FY 2016-17. During the second quarter, the San Carlos Air Traffic Control Tower began issuing new departure instructions to aircraft operators which resulted in an increase in noise complaints in surrounding neighborhoods. This new departure was quickly corrected, and departure instructions have returned to the standard noise abatement procedures. While there was an increase in the number of complaints due to a change in aircraft departures, pilots were still in compliance with Air Traffic Control instructions. The Program's continuing educational efforts and great working relationship with the San Carlos Airports Association allows the Airport to be successful at achieving a high level of pilot compliance with the voluntary noise abatement procedures at both Airports.

San Carlos Airport - Annual Aircraft Operations Decreasing



Percent of Occupancy Exceeding Target



Percent of Aircraft Observed in Compliance with Noise Abatement Procedures Meeting Target

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Aircraft noise over the San Mateo Coast, CA

Raymond hocheMong <r.hochemong@gmail.com> Thu, Jan 26, 2017 at 5:45 PM
To: Jenn.Gamurot@noaa.gov

I wish to convey that any aircraft noise over the San Mateo Coast in negligible. I have lived in Montara, Ca for 44 years and report that aircraft noise in negligible.

Raymond Hoche-Mong
835 George Street, POB 370937
Montara, CA 94037-0937
01-650-728-5451
USA

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Airplane noise over the coastside

janepraysilver <silverfyre@coastside.net> Thu, Jan 26, 2017 at 4:14 PM
To: Jenn.Gamurot@noaa.gov

The airplane noise is too frequent and too loud.
It is only marginally “okay" if you stay trapped in your home and do not go outside. The pleasure of living here, is walking outside, being in your yard etc.

I am getting the feeling that there is an endless data collection from neighbors — with no real commitment to correct this. I have been shopping for a new place to live, even though I am 65 years old, and had hoped to live here for the rest of my life…move because of the disruptiveness of the airplane noise alone.

I did quite a bit of research and it looks like there is technology to abate the noise, but the airline industry is resisting Installing it as a cost savings method. They just don’t seem to care about the folks whose lives get disrupted.

I also have concerns about any fuel remnants that come to ground. Probably for one plane its negligible…but with a continuous stream of plane traffic it should be monitored.

Thanks,
-Jane Praysilver
El Granada, CA 94018

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Tomales Bay Overflights

Bruce Bowser <bcbna@sonic.net> Thu, Jan 26, 2017 at 4:24 PM
To: jenn.gamurot@noaa.gov

Thank You For The Opportunity to Comment,

I urge that Tomales Bay be added as a zone within the Greater Farallones National Marine Sanctuary where low flying aircraft should be restricted.

As a member of the Greater Farallones National Marine Sanctuary, Advisory Council, (Conservation Alternate) I am aware from the many presentations I have observed, how deleterious the effects of Aircraft can be on birds, waterfowl and marine mammals. While Bolinas Lagoon shares an International status of Ramsar Site with Tomales Bay and lies along the same distinct geological feature: the San Andreas Fault line, the two bodies of water are a mere 20 minutes apart by auto and substantially closer by aircraft, it is therefore, a frequent sightseeing trajectory for aircraft. As a coastal dweller and a citizen of Bolinas, frequently on Kent Island in Bolinas Lagoon, I am aware of how often aircraft violate the 1000 ft. restrictions above the Lagoon and along the coast in general. I accept it from my friends and neighbors on Tomales Bay that the phenomenon of low flying aircraft is becoming all too frequent, regardless of season.

Tomales Bay is a heavily used recreation area, bounded by County, State and National Parks, and part of one of the Fourteen National Marine Sanctuaries in the Nation. Indeed a very special place of unique beauty, close to a major metropolitan area and many smaller airports. Tranquility and reflection are essential to the full enjoyment of park's special natural places and low flying aircraft disrupt the quality of experience for everyone, but a select hand-full.

Sincerely,

--b2~~

Bruce Curtis Bowser

Bolinas Oceans~Advocate
P.O. Box 598,
Bolinas, CA 94924
--

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Collaboration vs. Coffins: Public Comment on proposed Regulated Overflight Zones along the coast

Marian Harris <ms.marianharris@gmail.com> Thu, Jan 26, 2017 at 4:25 PM
To: Jenn.Gamurot@noaa.gov
Cc: Martin Wray <mwray@smcgov.org>, Gretchen Kelly <gkelly@smcgov.org>, "Chris St. Peter" <cstpeter@smcgov.org>

Dear Jenn, (CC San Mateo County Airport Management),

Regarding public comment on the proposed Regulated Overflight Zones along the coast, thank you for the opportunity to provide my comment.

Although the proposed shifting of the boundaries of the zone is a step in the right direction, expanding NOAAs activities to include fines and worse is a terrible direction. The move absolutely impacts safety in what are legal and navigable airways by trying to eliminate all air traffic - even when changing weather conditions are degraded. Doing so will delay pilot decision-making by forcing them to choose between;

1. Violating FAR Sec 91.155 and risking a crash by entering the clouds
2. Or remaining clear of clouds but crossing into excessively buffered Sanctuary Zones and risking expensive fines and even aircraft confiscation.

Most pilots are enthusiastic about marine seabirds and are very supportive of the recommended altitudes in the sanctuary, especially once they are educated. But it is unfair to apply the “Precautionary approach” and “Rebuttable Presumption” ***regardless of weather conditions***. Your “rebuttable presumption” is a politically correct way of stating “Guilty until you can prove you did not disturb any marine life”, and “Precautionary Approach” is subjective/unscientific method to pick an arbitrary altitude below which **no aircraft may pass** because it’s either easy to remember or simply sounds good – regardless of whether or not any marine life are present. More surprising is that this will be pursued despite the admission by NOAA's own scientists in the working group meetings that the only observed aircraft disturbances to nesting colonies has had little impact - and resulted in **zero loss** of seabirds (chicks/eggs/parents). In fact, seabirds and marine life have actually rebounded over the last decades with little to no restrictions on aircraft movement until a new enemy was needed now that the damage from the past oil spills and pesticide runoff have been largely cleaned up. Is there any proven benefit to the marine life to control something (aircraft) that has had little to no impact on marine life up to this point?

Education has helped reduce what light disturbances due to aircraft had been observed, and in fact during the 2016 Pacific Coast Dream Machines event at the Half Moon Bay Airport, a time when air traffic is at its heaviest, there were no aircraft disturbances observed at the sensitive Murre colony at Devil’s Slide immediately North of the airport. This happened WITHOUT the strong arm tactics NOAA attempted in 2009/2010, and this was possible without threat of fines. And why can we point to this success? Because a collaborative approach works with the aviation population.

I would hope that NOAA sticks to this collaborative approach instead of putting pilots in coffins, which could very likely happen if you continue to expand your charter to include the regulation of airspace.
When unpredictable clouds and fog develop, NOAA is effectively building a wall around airspace and creating a situation where pilots who wish to comply with FARs and avoid death are automatically guilty of a marine-mammal “disturbance” regardless of whether or not any marine life was even in the area – it does not matter based on your principle of “Rebuttable Presumption”. This means that NOAA IS creating airspace regulations and infringing on the FAA’s stated authority to regulate airspace, and putting pilots into a deadly situation when confronted with changing weather.

So as the non-pilot members of the working group enthusiastically push for the addition of ENFORCEMENT to be added to education efforts, I’d like to provide a reminder of something that NOAA may prefer to forget:
At the 2009/2010 Pacific Coast Dream Machines event, pilots witnessed a violent example of NOAA’s idea of ‘enforcement’ regarding marine overflight restrictions when an armed Fish & Game enforcement officer accompanied the Farallones Marine Sanctuary rep to the Half Moon Bay Airport to interfere with arriving and departing air traffic. This escalated quickly, with the officer racing his car up and down taxiways, to the runway threatening pilots and staff, ultimately culminating in a tense stand-off between a lone FAA representative whose job was to maintain a safe and operational airspace, and an armed NOAA enforcement agent who appeared too hostile and eager to test out his weapon using his falsely assumed authority over the FAA representative and pilots navigating the airspace.

So when you suggest that enforcement should be added to your program when collaboration and education has now proven to be VERY effective on its own, forgive me if we choose collaboration over coffins coupled with enforcement.

Respectfully,
Marian Harris

COUNTY OF SAN MATEO
PARKS DEPARTMENT

455 County Center, 4th Floor
Redwood City, CA 94063-1646
650-363-4020
www.SMCoParks.org

January 26, 2017

Greater Farallones National Marine Sanctuary
Advisory Council and Overflight Working Group
991 Marine Drive, The Presidio
San Francisco, CA 94129

RE: Low Overflights Working Group Recommendations

Dear GFNMS Advisory Council and Overflight Working Group:

The County of San Mateo Parks Department (County Parks) wants to commend the work being done to examine overflight zones within our California National Marine Sanctuaries. As the local public agency charged with stewardship of the Devil's Slide Rock and Mainland (DSR/M) area we support this effort and the dialogue it has fostered.

Upon review of the *Restoration and Monitoring of Common Murre Colonies in Central California: Annual Report 2015* (Fuller *et al.* 2015) (Annual Report) and the *Greater Farallones National Marine Sanctuary Advisory Council Working Group on NOAA Regulated Overflight Zones Recommendations to Sanctuary Advisory Council* (Recommendations) we would like to offer the following support and comments. The Annual Report indicates that the DSR/M area appears to experience the highest number of overflight events for the study area. Due to this continued potential threat to common murre and associated seabird colonies, we agree with the recommendations to expand pilot education and outreach efforts to improve pilot compliance with NOAA Regulated Overflight Zones (NROZs). County Parks also supports the specific recommendations made in Section 2, Recommendations for Specific NROZs. We support making requests to the Federal Aviation Administration (FAA) for chart markings for Devil's Slide Rock area and maintaining the 1000-foot above-ground-level (AGL) request to pilots. Finally, we support efforts to enter dialogue with the FAA to determine if re-classification of airspace above Devil's Slide Rock area is necessary to better support the 1000-foot AGL request and to improve pilot safety and better protect wildlife.

Thank you for the opportunity to provide support and comment on the recent Recommendations.

Sincerely,

Sarah Birkeland
Acting Parks Director

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Montara Overflights

Les Bowman <lbow77@comcast.net> Thu, Jan 26, 2017 at 4:34 PM
To: Jenn.Gamurot@noaa.gov

Last night at 1 am I was woken by a large airplane flying over my house in Montara. I never used to hear planes at that hour and only infrequently at other hours. What was once a peaceful coastal village now appears to be part of the SFO flyway.

I urge you to rescind directions to pilots to overfly Montara. The Coastside functions as the lungs and green space for the larger Bay Area. On weekends we host many visitors who come to enjoy the clean air and beautiful scenery. Must you spoil the Bay Area's coastal park for residents and visitors alike?

Les Bowman

Lbow77@comcast.net

916-213-3177

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Overflight over El Granada

AliceKeeton <alicekeeton@gmail.com> Thu, Jan 26, 2017 at 4:40 PM
To: Jenn.Gamurot@noaa.gov

Sirs,

Please give us back our sense of peace on our beautiful coastline.

Can planes go higher so we don't hear them or further south ?? Please. !

Alice Keeton
Sent from my iPhone

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Comments to Working Group Recommendations , Greater Farallones Sanctuary Overflight Working Group

Diane Hichwa <dhichwa@earthlink.net> Thu, Jan 26, 2017 at 4:47 PM
To: Jenn.Gamurot@noaa.gov, George Clyde <gclyde11@gmail.com>
Cc: Diane Hichwa <dhichwa@earthlink.net>

Greater Farallones National Marine Sanctuary
Advisory Council
Low Overflights Public Comments

I find it interesting that the various perspectives were able to discuss and learn from each other, but not reach agreement on how to proceed to protect our coastal wildlife.
I appreciate all the time and efforts spent by each member of the group in this process. And appreciate that some recommendations did come out of the process with good support from all perspectives.

I appreciate greatly that the pilot group desires to minimize disturbances to the marine life along the coast‹and with the Working Group has put forth some recommendations to support that.

While pilots advocated 500 ft minimum feet AGL in a proposed NROZ, the marine scientists‹who would be the expert observers in this area‹do NOT AGREE that flushing events from aircraft at 500 ft AGL are rare.
I live in what is considered to be an uncongested area. Still, we have observed along the Sea Ranch coast some specific disturbances to seabirds and a nesting colony from: a blimp under 1000', a helicopter under 1000', and fireworks from land.

In congested areas this would be much more likely and much more frequent an issue for wildlife.

Pilot education directed at this topic and staff hired by NOAA could all contribute to better safety for the pilots, and for the wildlife. I strongly support the GR-10-a proposing a NOAA position for Pilot Outreach (including UAVs)
Exemptions for pilot safety in unanticipated weather should be supported as soon as possible. And weather and visibility conditions do indeed change rapidly along the coast.
Recommendations for better text and graphic information of the FAA sectional charts should be implemented as soon as possible.
The recommendation for consistency of a restricted zone NROZ or boundary being lowered to extend 1000 ft horizontal distance from shore is very sensible.

Although UAV users and industry representatives were not included in this study, I would urge that education about potential disturbance to wildlife be prepared and extended to operators of drones.

There is a need to understand how to minimize disturbance and also to accumulate information on knowing the effects of flight height, angle of approach, breeding cycle activities on different types of birds.
The NROZ requires flights stay above 1000 ft and the FAA limits small UAVs to NOT FLY ABOVE 400 ft. We must understand if disturbance occurs and under what circumstances in order to make the regulations logical.
I strongly support the recommendation in GR-9 recommending a dedicated

program to gather information and research UAVs and their present and projected impacts on sanctuary resources.

Thank you for your efforts and for taking my comments.
Diane Hichwa

Email: dhichwa@earthlink.net

Telephone: 707-785-1922 (Sea Ranch)
707-483-3130 (cell)
More Tail Wagging!!! Less Barking!!
Millie 2007

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Public Comment to NOAA Regulation of Marine Sanctuaries

b gammon <gammon25@yahoo.com> Thu, Jan 26, 2017 at 4:48 PM
Reply-To: b gammon <gammon25@yahoo.com>
To: "Jenn.Gamurot@noaa.gov" <Jenn.Gamurot@noaa.gov>
Cc: Marian Harris <ms.marianharris@gmail.com>, Gretchen Kelly <gkelly@smcgov.org>, Glenn Reynolds <greynolds@h2osolutions.com>, Mark Reed <reedhmb@gmail.com>, "Ed Andreini Jr." <eandreini@sbcglobal.net>, "vernon@nestlabs.com" <vernon@nestlabs.com>, Jae Chang <jchang10@gmail.com>

January 26, 2017
Ms. Jenn Gamurot
I am writing to express my concern about existing and proposed NOAA regulations relating to aviation activity in the Greater Farallones National Marine Sanctuary and the Monterey Bay National Marine Sanctuary, (collectively referred to as the Sanctuaries.)
Existing and proposed NOAA regulation of aviation operations in the Sanctuaries is excessively burdensome, discriminatory, unsupported by rational application of rues and in violation of long standing rights and obligations, for several reasons.
The National Oceanic and Atmospheric Administration (NOAA) has failed to support its regulation and restriction of aviation with evidence of real, actual and direct on-going harm resulting from aviation operations in the Sanctuaries. Moreover, it is difficult to imagine a rational basis for the rigid aviation restrictions in the Sanctuaries while allowing a wide variety of other activity, such as commercial ship traffic, sport fishing, commercial fishing and all other activity not specifically prohibited. Given the rigidity of NOAA's restrictions on aviation, one might conclude that all other activity that might harass or annoy marine mammals and sea birds would be strictly prohibited. However, the regulation contemplate that all activity that is not expressly prohibited is allowed. (15 CFR 922.42) Even though the definition of taking includes vehicles other that aircraft, only personal water craft (jet skis) are dealt with as rigidly as aircraft. (Take or taking means…to operate a vessel or aircraft or to do any other act that results in the disturbance or molestation of nay marine mammal, sea turtle or seabird." 15 CFR 922.3. The regulations that restrict aircraft allow cruise ships, freighters, commercial and sport fishing and fishing boats, people taking jade (generally 15 CFR 922.132.)
The lack of identifiable rationale is reflected in the scope and reach of the regulations imposed by NOAA on aviation. One could guess that the reason for the altitude restriction is because of aircraft noise. However, the regulation applies to all aircraft regardless of noise – thus balloons, gliders, hang gliders, drones, RC aircraft and electric human piloted aircraft all are arbitrarily and irrationally cramped into a one-size-fits all category. Surely the difference in impact of noise between a Boeing 747 at take off throttle setting and a electric piloted airplane should be worthy of distinction. But this is all imagined because NOAA has failed to state any rational reason to restrict aviation in the Sanctuaries.
NOAA's regulation and publication of its regulation are riddled with a lack of understanding of aviation and inappropriate and erroneous communication. Examples of NOAA's inability to achieve competent reconciliation of its duty to regulate the Sanctuaries while minimizing the negative impact on aviation include:

i. stating the prohibition in terms of 1,000 feet AGL, 1,000 feet and 1,000 feet above water which makes the probation impracticable;

ii. lack of an effort to minimize the probation on aviation to areas that are more or most sensitive;

iii. lack of any apparent effort to mitigate the impact on aviation into and out of existing airports, instrument operations, emergency operations and life support operations.

First and foremost, NOAA should abandon its current scheme and approach of restricting aviation in the Sanctuaries until and unless NOAA demonstrates with rationale scientific evidence that aviation operations in the Sanctuaries actually has a measurable and real negative impact on sea birds and sea mammals. Secondly, if NOAA is able to rationally establish some negative impact, any restrictions should be strictly limited to avoiding the measurable real impact only. Thirdly, NOAA should acknowledge other meaningful legal and ethical obligation to craft any regulations restricting aviation in the Sanctuaries in a way that does not endanger human life and negatively impact freedom and economic activity. Lastly, NOAA should either defer the regulation of airspace to an authority that is capable of understanding the needs and technical requirements of aviation (such as the FAA) or endeavor to acquire such capability itself.

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January 26, 2017

Greater Farallones Sanctuary Advisory Council
Via Email: Jenn.Gamurot@noaa.gov

Re: Recommendations of the Working Group on NROZs

Dear Members of the Greater Farallones National Marine Sanctuary Advisory Council,

The Environmental Action Committee of West Marin (EAC) thanks you for the opportunity to submit public comments on the *Greater Farallones National Marine Sanctuary Advisory Council, Working Group on NOAA Regulated Overflight Zones, Recommendations to Sanctuary Advisory Council*, January 19, 2017 (Working Group Recommendations). Formed in 1971 and based in Point Reyes Station, California, EAC is a grassroots, member-based organization dedicated to protecting and sustaining the unique lands, waters, and biodiversity of West Marin.

EAC is concerned that the birds and marine mammals along our local coast and in estuaries are subject to potential disturbances from low-flying aircraft, which exacerbate all of the other types of human disturbance. For example, "The mean distance at which seals are flushed into the water by small boats and people ranges between 80 m and 530 m, with some disturbances recorded at distances of over 1,000 m."[1] EAC has consistently advocated for the reduction of human disturbances to wildlife in the Greater Farallones National Marine Sanctuary. In 2001, EAC successfully advocated for a complete jet ski ban from the Gulf of the Farallones National Marine Sanctuary, including all of Tomales Bay.

Human disturbances to harbor seals in the Point Reyes area include low-flying planes.[2] A plane flying at 1,000 feet over the water is clearly within the zone of potential disturbance and would create significant noise and vibration to possibly disturb harbor seals. In addition to marine mammal

[1] National Research Council, *Shellfish Mariculture in Drake's Estero, Point Reyes National Seashore, California* (2009) at page 48.
[2] *Harbor Seal Monitoring, San Francisco Bay Area, Annual Report National Park Service* (2006) at page 7.

disturbances, low-flying motorized aircraft for pleasure and sightseeing cause disturbances to the thousands of migrating and resident seabirds.

EAC believes that the unique marine wildlife biodiversity, special national significance for which the West Coast National Marine Sanctuaries were established, and the importance of providing marine wildlife protection from undue disturbance, warrants the continuation of the 1,000-foot minimum for existing and new NROZs.[3]

It is EAC's position that wildlife can and should be protected by expanding the NOAA regulated overflight zones (NROZ) areas and adding additional restrictions as outlined in Working Group Recommendations. Specifically, EAC supports extending the existing 1000-ft. minimum elevation NROZ south to cover the remainder of Tomales Bay up to the Greater Farallones National Marine Sanctuary boundaries.[4] The expansion of the NROZ to the full Tomales Bay area, as shown in Figure 3 of the Working Group Recommendations is critical, as Tomales Bay possesses unique resource values. As early as 1979, the Regional Coastal Commission designated Tomales Bay as a "Special Resource Area."

It is our general recommendation that the Greater Farallones National Marine Sanctuary Advisory Council should consider and approve all of the Recommendations, including extending the NROZ to include all of Tomales Bay[5], and that the recommendations should be forwarded to the Greater Farallones National Marine Sanctuary Superintendent for action.

Thank you for your consideration of our comments on this important issue.

Respectfully,

Morgan Patton
Executive Director

Ashley Eagle-Gibbs
Conservation Director

[3] *See* pages 7

[4] EAC supports the Working Group's Option B on pages 32-33 of the Working Group Recommendations excepted below:

> B. Extend the existing 1000-ft. minimum elevation NROZ south to cover the remainder of Tomales Bay up to the Sanctuary boundaries.
>
> - Recommend that the NOAA consult with FAA to address any issues that might arise because of the Class E airspace (as described in GR-7 above) in the southern part of the Bay.
> - Consider whether there should be an exclusion from this minimum altitude for seaplanes or amphibious aircraft unless they are transiting the airspace with no intention to land (as proposed by Aaron Singer of SF Seaplanes in his Stakeholder Comment). This exclusion from the NROZ regulations could be seasonal to avoid disturbance and flushing of the large numbers of wintering birds….

[5] *Greater Farallones National Marine Sanctuary Advisory Council, Working Group on NOAA Regulated Overflight Zones, Recommendations to Sanctuary Advisory Council,* January 19, 2017.

Jenn Gamurot - NOAA Affiliate <jenn.gamurot@noaa.gov>

Coastside flight paths

Brook Baker <bake915@yahoo.com> Thu, Jan 26, 2017 at 5:56 PM
To: Jenn.Gamurot@noaa.gov

Hi Jenn,

The coastside USED to be a quiet peaceful sanctuary away from the air and car traffic noise of San Francisco. The new flight paths over this area are very disturbing! Non-stop chorus of jet noise starting very early 5-6am and going late into the night 11pm. One after the other after the other. It's terribly distracting. Hope you can help us. Thanks for taking time to hear this complaint.

Brook Baker
Half Moon Bay resident

Point Blue Conservation Science

Conservation science for a healthy planet

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pointblue.org

January 26, 2017

Jenn Gamurot
Greater Farallones National Marine Sanctuary
991 Marine Drive, The Presidio
San Francisco, CA 94129

Dear Ms. Gamurot,

I am writing on behalf of Point Blue Conservation Science (Point Blue) in response to the recommendations submitted by the Working Group on NOAA Regulated Overflight Zones (NROZs) within the Greater Farallones National Marine Sanctuary (GFNMS). Point Blue staff have studied the seabirds breeding on the Farallon Islands for five decades and at mainland California colonies for almost two decades. We have documented the serious impacts that low overflights can cause to seabird colonies. We continue to support the use of NROZs as a regulatory tool and would like to submit the following comments for consideration.

1) Point Blue does not support putting all resources and effort into only outreach and education. While outreach and education have proven to be successful, it is important to acknowledge the damage that a single low overflight can do to a seabird breeding colony. We therefore support continuing to maintain NROZs as a tool in addition to outreach and education.
2) We recommend a 2000 ft minimum rather than 1000 ft minimum altitude for aircraft flying in airspace over critical wildlife areas administered by the National Marine Sanctuaries. While wildlife may not show external behavioral responses to the aircraft, research has shown that stress hormone levels rise in response to the presence of aircraft, impacting breeding success and population levels.
3) We feel that reducing the horizontal extent of NROZs to no less than 1,000 ft would be adequate for preventing disturbance, but may be difficult to assess by both pilots and disturbance monitors in the field. If the horizontal distance is reduced to 1,000 ft, new NROZ boundaries will need to be precisely defined on the FAA map in a way that eliminates confusion.
4) We cannot comment on NOAA's jurisdiction over airspace. However, we strongly support coordination with the FAA to a) simplify the maps for pilots and b) be consistent throughout all West Coast sanctuaries.
5) If seabird disturbance from overflights continues to be an issue despite the existence of NROZs, then we recommend hiring an outreach coordinator who would be dedicated to communicating directly with pilots.
6) We also support Option B, to increase the existing 1000 ft minimum elevation NROZ to 2000 ft and to expand south to cover the remainder of Tomales Bay up to the Sanctuary boundaries.

Please don't hesitate to contact Dr. Jaime Jahncke (jjahncke@pointblue.org) with any questions you might have. Thank you for the opportunity to provide comments on this vital conservation issue.

Sincerely,

Ellie M. Cohen
President and CEO

Cc: Jaime Jahncke, PhD
Grant Ballard, PhD